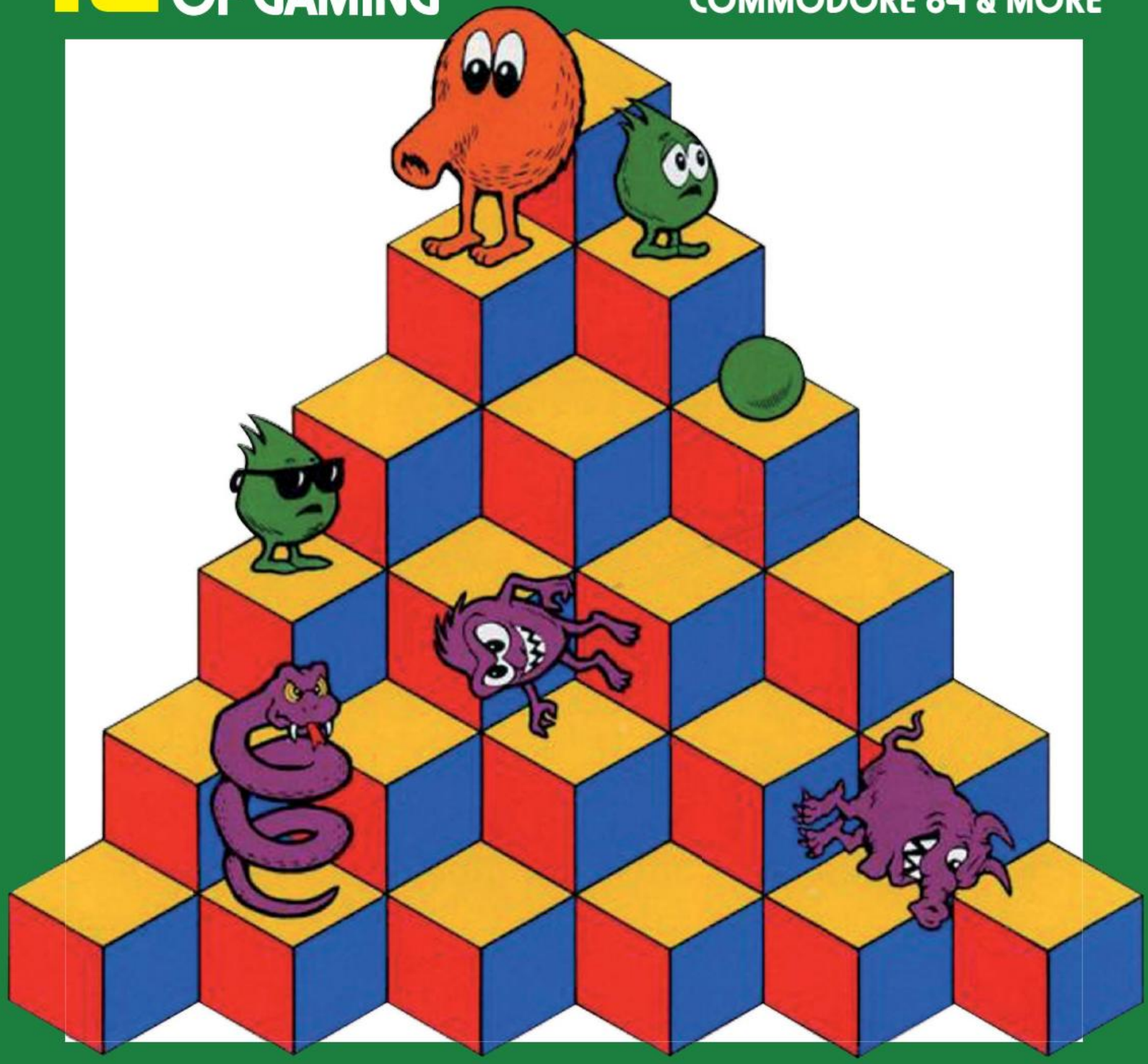
BACK TO 1982

12 MONTHS OF GAMING

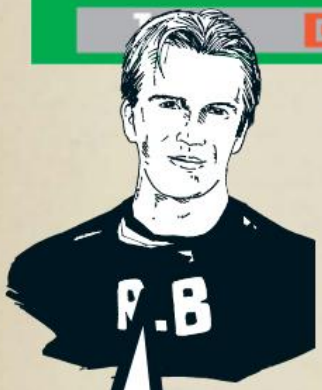
A RETRO CELEBRATION SYSTEM
DIG DUG • JOUST • ROBOTRON
COMMODORE 64 & MORE



BACK TO THE EIGHTIES

» [Intellivision] If you cross *Snake* with the light cycles from Tron you get this.

» [Arcade] Sega employs axonometric projection, hence the name, to create a 3D third-person shoot-'em-up in *Zaxxon*.



JANUARY 1982 – Qix arrives, Cracks appear, Game & Wristwatch revealed, Intellivision gets Snafu, Videopac attacks a satellite, Zaxxon hits arcades and Microsoft's Olympic Decathlon is off and running. Richard Burton sticks a javelin in his foot…

THE LATEST NEWS FROM JANUARY 1982

UK arcade coin-op fans were awaiting the release of Taito's latest creation, the simplistic but highly playable *Qix*. Pronounced 'kicks', the game sees you attempt to cordon off the screen in a fast paced *Etch-A-Sketch*-style game. You are required to gain 75 per cent of the gaming area before progressing to the next level and you did this by simply completing a closed shape. This shape then becomes solid and you are rewarded accordingly. Of course, it's not as easy as it sounds, as there are a number of different baddies after you. Despite its basic graphics, even for 1982, the playability was undoubted.

Do you suffer from *Cracks Of Doom*? Supersoft did, as it once again plundered literature for another Commodore PET adventure. After having *Hitchhiker's Guide To The Galaxy* withdrawn from sale for not having a licensing agreement, it was fair to assume that *Cracks Of Doom*, which was a Tolkien-based adventure following the story of Frodo and his journey to Mordor, adhered to the same principle. It was written by *Hitchhiker's* author, Bob Chappell, who later developed a Commodore 64 version of *Cracks of Doom*, although somewhere in the development process the game was renamed *Cracks Of Fire*, with place and character name changes.

With Nintendo's Game & Watch handhelds selling well and new titles released every few months, it came as no surprise to find others releasing similar products. However, the first of its kind to combine games with a proper wristwatch was about to be launched in the UK.

General Consumer Electric, the maker of the Vectrex console, had licensed Computer Games Ltd in the UK to release the first of three LCD digital watches containing several simplistic videogames. The watch and game combo was called *Game Time* and would contain the games *Firing Squad, Missile Strike, Alien Assault* and *Blast Away*. They were very simple games controlled by using just two buttons on the watch. Two further editions were released: *Sports Time* and *Arcade Time*, with all priced at £29.95.

There was more simple gaming pleasure with the release of *Snafu* by Mattel for the Intellivision console. What is essentially a cross between a game of *Snake* and Light Cycles, *Snafu* was another of those games that looked deceptively bland yet played well, particularly with two players. A nice touch that others games of this ilk didn't have was, on one of its variant games, the ability of moving diagonally. Another had random hazards appearing on screen. It had 16 different game variations and a choice of speed options. *Snafu* was, in a similar way to *Qix*, graphically uninspiring, but what they both had was boatloads of playability. You could *Snafu* it up for just £18.95.

Out this month in the UK for the Philips Videopac G7000 was *Satellite Attack*. It was a chunky yet colourful version of *Asteroids* with some interesting quirks, including a rather ingenious targeting system. Instead of blasting away at whatever is in your line of fire, you could control a dot on the outside of the gaming area, which then determines where your firepower goes. It might sound like a small thing, but being able to manoeuvre your ship away from obstacles while still blasting at asteroids was genius. *Satellite Attack* had only one minor quibble: the solitary life you have to cherish throughout the game.

» [Arcade] Divide and conquer was the name of the game. Gain 75 per cent of the screen and progress to the next level.

JANUARY 1982 NEWS

Mark Thatcher, son of Prime Minister Margaret Thatcher, reported missing somewhere in the Sahara during his participation of the Paris-Dakar Rally on 12 January. He was found three days later, having gone off course by 31 miles after suffering mechanical problems with his car.

11 January saw the first day of shooting for the third movie in the original *Star Wars* trilogy, *Return Of The Jedi*. *ROTJ* is notable for the death and redemption of Darth Vader/Anakin Skywalker as he battled the Emperor but also for the Ewoks, the cutesy and irritating inhabitants of Endor.

1 January brought a switch in regional television channel providers in the UK, with ATV in the Midlands replaced by Central Television, Westward replaced by TSW in the South West and Southern making way for TVS in the south of England. Ident collectors started rubbing their trousers vigorously…

» [Arcade] *Return Of The Jedi* was another smash hit for George Lucas, and Atari also released its own trilogy ender.

There was more TV news, with several new programmes debuting during January. 2 January saw *OTT* air for the first time. Short for *Over The Top*, it was an adult off-shoot of *Tiswas*, featuring many of the same crew such as Chris Tarrant and Lenny Henry. It flopped badly and was cancelled after one series.

Also debuting on 2 January was *No 73*, the live Saturday morning kids' TV show for ITV. Initially it aired only in the south, as most ITV regions persevered with the ailing *Tiswas*. It featured Sandy Toskvig and Neil Buchanan and ran for an impressive six years.

With 1982 being a World Cup year for football, it seemed odd that Microsoft should release an Apple II Olympic-themed game. Whether it was two years early or late, *Olympic Decathlon* set the tone for these types of games with frantic keyboard-bashing aplenty.

The full ten events were there, with the facility to allow six players to go against each other in gaining the biggest decathlon score. It also allowed pairs of players to go head-to-head, giving some in-game competition as well as maintaining your cumulative points score over the course of the decathlon. A nice touch was that the high-score table had real points scores from real decathletes, so you could gauge if you were in with a shout of a medal should Bruce Jenner, the decathlon world record holder at the time, be competing against you. Terrific fun, particularly with five of your mates around. Just make sure you have fingers of steel and reinforced keyboards…

Arcade dwellers were greeted with an isometric scrolling shooter classic this month with Sega's release of *Zaxxon*. The game looked different to anything else, with its isometric third-person viewpoint. As games go, the premise was as basic as they come: shoot everything, don't get killed and don't run out of fuel.

Zaxxon had a couple of other firsts to its name; it was the first videogame to use shadows for gameplay purposes rather than aesthetic beauty. The shadow of your ship could be used to gauge the ship's height, which was particularly useful when dodging barriers. It was also the first arcade coin-op game to be advertised on US television. *Zaxxon* proved to be an arcade hit among the coin-op fans. The well-regarded US magazine *Electronic Games*' annual videogame awards, which were some of the first awards ceremonies, had *Zaxxon* narrowly missing out as Arcade Game of the Year 1982 to Namco's *Bosconian*.

Naturally, many console and home computer versions followed, including a spiffy version for the ColecoVision, which itself narrowly missed out on being crowned Videogame of the Year for 1983, losing out to *Lady Bug*.

» [Apple II] *Olympic Decathlon* looks devoid of any enjoyment but quite the opposite was the case. A superb multiplayer game.

» [Philips Videopac] *Satellite Attack* played great despite looking like it was designed by a four-year-old.

THIS MONTH IN...

YOUR COMPUTER

YC had a big interview with Kenneth Baker MP, the first government minister to be responsible for information technology. He introduced the Microcomputers In Schools scheme, although his big hope was by the end of the year that 1 million television sets in the UK would have teletext facilities.

COMPUTER & VIDEO GAMES

Always one to take the lead, *C&VG* highlighted possible toy trends for Christmas 1982. It predicted that Nintendo's Game & Watch handhelds would be sought after, as would the ongoing trend for chess computers. Would home computer chess software call checkmate on these bulky tabletop systems? Horsey takes king prawn…

ACTIVISIONS

The quarterly bulletin highlighting Activision's news revealed two new releases: *Grand Prix* and *Barnstorming*. Activision's president remarked on *Barnstorming* that "the graphics give you a you-are-there feeling, which takes you back to a long-gone era."

CHARTS

JANUARY 1982

ACORN ATOM

- Atom Chess (Bug-Byte)
- 3D Asteroids (Program Power)
- Space Invaders (Bug-Byte)
- Minefield (A & F Software)
- Invader Force (Program Power)

ZX81

- QS Defender (Quicksilva)
- Chess (Mikro-Gen)
- Star Trek (Silversoft)
- Centipede (DK'Tronics)
- QS Asteroids (Quicksilva)

APPLE II

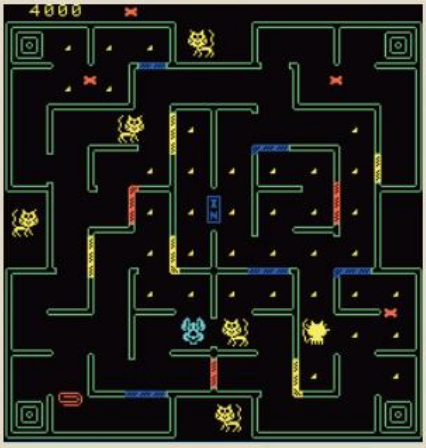
- Castle Wolfenstein (Muse)
- Raster Blaster (BudgeCo)
- Space Eggs (Sirius Software)
- Alien Typhoon (Star Craft)
- Gorgon (Sirius)

MUSIC

- The Land Of Make Believe (Bucks Fizz)
- Oh Julie (Shakin' Stevens)
- Don't You Want Me (Human League)
- Get Down On It (Kool & The Gang)
- I'll Find My Way Home (Jon & Vangelis)

» [Atari 2600] Why did the chicken cross the road? To make David Crane lots of money.

» [ColecoVision] *Mouse Trap* was like *Pac-Man* with strategy thanks to the door-closing element.



FEBRUARY 1982 – Activision plays chicken, VIC-20 lands on Jupiter with Vic-Men, GCC turns Otto into Ms Pac-Man, Nintendo sees turtle heads in the water and Sinclair enjoys ZX81 success with big brother to come. Richard Burton awaits the dead flesh keyboard…

THE LATEST NEWS FROM FEBRUARY 1982

It was a strong start to the month for Atari 2600 gamers, with two belated cartridge arrivals in the UK from Activision: *Freeway* and *Kaboom!*. Both had enjoyed good sales in the US and were now available over here for £19.95.

Freeway saw you trying to manoeuvre your chicken across the road of a ten-lane super highway. Get hit by a car and you are pushed back rather than turned into a feathery chicken pancake. Although it sounds a lot like *Frogger*, the only similarity is that you have to cross a road. In *Freeway*, you can only move up and down and have to cross the highway as many times in the allotted time as possible. Although good fun as a one-player game, where *Freeway* really scores over *Frogger* is the simultaneous two-player option. Simplistic and colourful, smooth graphics and adequate sound effects made for a great little game, and all distilled from the creative juices of David *'Pitfall'* Crane.

Activision's second release was *Kaboom!*. It was another mesmerisingly simple game to play, yet one that would keep you occupied for hours. The objective was to catch bombs thrown by the Mad Bomber from the top of the screen to your set of three buckets – which bear little or no resemblance to any bucket we've ever seen – at the bottom of the screen by using your Atari paddle. It played like an enhanced Game & Watch title, such was its simplicity, but it was yet another hugely entertaining release from Activision.

Another 2600 release, with Intellivision and ColecoVision versions available, was *Mouse Trap*, a conversion of the coin-op, which had only just hit UK shores after being in circulation in the US for several months.

Mouse Trap was essentially a *Pac-Man* clone; there's a maze, you're a mouse, you avoid cats, you pick up cheese and you can eat the bones to turn you into a cat-hating bulldog. It was pretty standard fare made a little more interesting with the addition of coloured doors, which could be controlled to reconfigure the maze. This element of strategy helped lift *Mouse Trap* above the sea of *Pac-Man* clones threatening to bore gamers to death.

Commodore's popular VIC-20 computer had been selling well in the UK, so a surprise price reduction, which brought the price to under £190, seemed to cement sales for the foreseeable future. Or until the Commodore 64 was revealed…

Commodore Business Machines' first wave of cartridge game releases for the VIC-20 included *Jupiter Lander*, a clone of the not-particularly-brilliant 1979 coin-op *Lunar Lander* from Atari.

Jupiter Lander saw you guiding a landing craft onto the planet's surface, with three potential landing sites of differing degrees of difficulty. The controls consisted of left and right movement and upward thrust to ensure a gentle landing. Although the graphics were very bland, a nice touch was that as you got nearer to your chosen landing site, the view suddenly zoomed in to give you a closer look at your final approach. *Jupiter Lander* was good fun but didn't really have the longevity you would hope for in a game costing nearly £20. Commodore later released a C64 version.

Bug-Byte also began advertising its newest VIC-20 game this month, the Atari-infuriating release of the short-lived *Pac-Man* clone, *Vic-Men*. Buy it while you can, as Atari will flay you alive should you be caught with a copy…

General Computer Corporation (GCC) had been creating its own arcade *Pac-Man* clone called *Crazy Otto* with its bespoke conversion kit. The problem for GCC was that it had recently been in court, settling a lawsuit with Atari over a similar project called the *Missile Command* conversion kit, with which it had created *Super Missile Attack*.

The court ruling stated that GCC could no longer create new games with conversion

» [VIC-20] *Vic-Men* – get it while you can.

FEBRUARY 1982 NEWS

2 February saw a massacre begin in the town of Hama in Syria. It was thought that approximately 20,000 inhabitants were killed in the attacks by government forces after it began shelling the town. Hama was a stronghold for the Muslim Brotherhood, an opposition party to the ruling Assad Baath Party. Syrian special forces went in on the ground with brutal force, quashing the uprising.

Wes Craven's cinematic interpretation of the DC comic book creation *Swamp Thing*, the part-man, part-garden-centre hybrid, premiered on 19 February. Despite its cheese-encrusted acting and special effects that weren't very special, the movie cultivated something of a cult following and sprouted a sequel with an even lower budget in 1989.

19 February also saw the DeLorean Motor Company put into receivership. In the seven years it was trading, it produced just one model, the DeLorean DMC-12. Famous for its gullwing doors and its stainless steel bodywork, the DMC-12 shot to worldwide fame in 1985 when used as a time machine in the *Back To The Future* movie trilogy.

» Suffice to say *Swamp Thing* wasn't Wes Craven's best work. Not unenjoyable, though.

Jazz pianist and composer Thelonious Monk died of a stroke on 17 February at the age of 64. Considered to be one of the all-time great jazz artists, Monk's jazz style was unorthodox. He would constantly improvise throughout, adding sudden pauses, and would often stop playing altogether, leaving the band to continue while he danced before returning to the piano, much to the annoyance of jazz purists. Nice.

kits without consent of the original developer. With *Crazy Otto* dead in the water, GCC decided to offer it to Midway, Namco's American distributor of the original *Pac-Man* arcade machine. Midway liked what it saw and bought the rights to it. After a spot of sprite-changing, the game was renamed *Ms Pac-Man* and released mid-February.

Ms Pac-Man played much the same as the original but with several minor alterations such as clearer maze layouts and more warp tunnels. The bonus fruit had become nomadic and bounced around the maze, and the ghosts had more of a random element to their movement, making the adventures of this new female character – essentially Pac-Man with lipstick and a red bow – more difficult. *Ms Pac-Man* went on to become one of the biggest-selling arcade machines of all time in the US.

» [Arcade] *Ms Pac-Man* arrives thanks to Atari's intervention in a *Missile Command* clone.

Nintendo continued pushing its massively popular Game & Watch series by releasing its latest game, *Turtle Bridge*. As per usual, the gameplay was simple, with you having to cross a river by using five turtles as stepping stones. Naturally, they randomly dive at inopportune moments, meaning quick reactions to save the luggage you are trying to transport across said river. Good fun and yours for just £24.95 – just don't stick it in your back pocket when you go and play bulldog in the playground…

Sinclair Research was celebrating with the news that its ZX81 home computer had recently sold its 250,000th unit. Quite a feat for a machine with 1K of memory and that had only been on sale for just under a year. Despite the cause for celebration, Clive Sinclair was very reluctant to shed light on the ongoing rumour that he was planning a new colour home computer, tentatively called the ZX82. There was virtually nothing in the computing press, except for a whisper that the machine might be codenamed Spectrum…

» [Game & Watch] Usually avoiding a turtle head is good advice, but in *Turtle Bridge*, you use or lose!

THIS MONTH IN...

YOUR COMPUTER

With Sinclair's ZX81 selling its 250,000th unit in just 11 months, it pressed ahead with more advertising for the micro. Sinclair was intent on shifting as much stock as possible, because little did we know that in just two months time the shiny new ZX Spectrum would be unveiled…

COMPUTER & VIDEO GAMES

Despite it only being February, *Computer & Video Games* pressed ahead with a feature predicting what would be hot for Christmas 1982. It seemed that a trend for electronic board games was forming, with games like *Dark Tower* and *Family Challenge* looking to make headway into tabletop electronic game territory. They didn't…

ATARI OWNERS CLUB BULLETIN

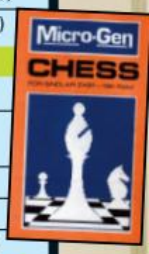
The newsletter for Atari gamers featured news on the UK *Asteroids* Contest being held at Olympia. Participants had 15 minutes to get the highest score on the 2600 version, with the winner flying to Washington to represent the UK in the International *Asteroids* Contest.

CHARTS

FEBRUARY 1982

ACORN ATOM

1. Atom Chess (Bug-Byte)
2. 3D Asteroids (Program Power)
3. Invader Force (Program Power)
4. Space Invaders (Bug-Byte)
5. Minefield (A&F Software)



ZX81

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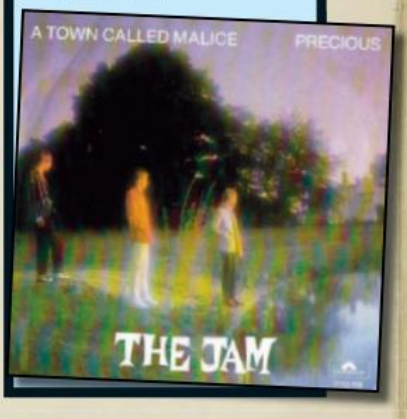
APPLE II

1. Castle Wolfenstein (Muse)
2. Space Eggs (Sirius Software)
3. Raster Blaster (BudgeCo)
4. Alien Typhoon (Star Craft)
5. Gorgon (Sirius)

MUSIC

1. A Town Called Malice/ Precious (The Jam)
2. The Lion Sleeps Tonight (Tight Fit)
3. Golden Brown (The Stranglers)
4. Say Hello Wave Goodbye (Soft Cell)
5. Maid Of Orleans (Orchestral Manoeuvres In The Dark)



THE MAKING OF...

Q*bert

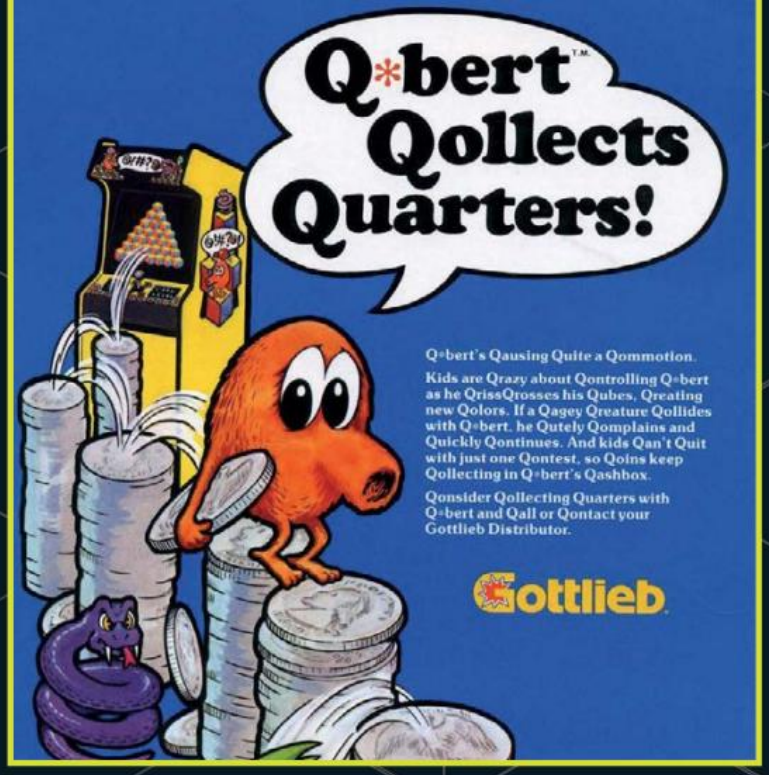
HE'S ORANGE, GOT A BIG NOSE, TALKS COMPLETE GIBBERISH AND IS RATHER USED TO FALLING OFF PYRAMIDS. IT CAN ONLY BE Q*BERT, THE STAR OF A FIENDISHLY DIFFICULT YET ADDICTIVE ARCADE GAME. KIM WILD TALKS @!#?@! WITH WARREN DAVIS AND JEFF LEE ABOUT ONE OF GOTTLIEB'S MOST UNUSUAL VIDEOGAME ICONS

IN THE KNOW

- **PUBLISHER:** GOTTLIEB/MYLSTAR
- **DEVELOPER:** IN-HOUSE
- **RELEASED:** 1982
- **PLATFORMS:** ARCADE (CONVERTED TO NUMEROUS 8-BIT COMPUTERS AND CONSOLES)
- **GENRE:** ARCADE
- **EXPECT TO PAY:** £80+ FOR ORIGINAL CABINET

Back in the early Eighties, Gottlieb was well known for its line of pinball machines but for a brief time, it branched out into the world of video arcade games by creating a new division headed by Howie Rubin. Soon another artist was needed to work on the storyboards and to mock up artwork for test pieces, which is how *Q*bert's* co-creator Jeff Lee arrived at the company.

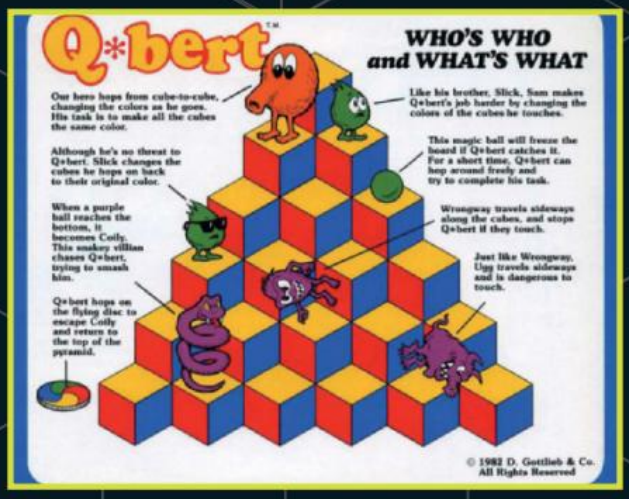
After working on several arcade titles including *Caveman, Quizimodo* and a superhero game, Jeff Lee experimented with background tiles on Blue Box, an Intel computer that was a monitor linked to a graphics card. "Kan Yabumoto, a hardware programmer, had this up and running for his own purposes. While gazing at this pyramidal structure from across my drawing board, it seemed to me that a game was waiting to be teased out of it," explains Jeff. With an idea in place, Jeff began creating various creatures that could populate the cubic pyramid, which came about as a result of doodling, with a certain orange critter as the main character. "I just drew him. And right from the start he was the initial character, fully formed, except he wasn't originally furry. I often put large noses on cartoon characters. The orange just seemed right. I don't think I ever rendered him in another colour – maybe it was a nice contrast with the blue cubes and black background. Incidentally, an early sketch of Sam is also in orange. And Wrong-Way was


Q*bert™
Qollects
Quarters!
Q*bert's Qausing Quite a Qommotion.
Kids are Qrazy about Qontrolling Q*bert as he QrissQrosses his Qubes, Qreating new Qolors. If a Qagey Qreature Qollides with Q*bert, he Qutely Qomplains and Quickly Qontinues. And kids Qan't Quit with just one Qontest, so Qoins keep Qollecting in Q*bert's Qashbox.
Qonsider Qollecting Quarters with Q*bert and Qall or Qontact your Gottlieb Distributor.
Gottlieb

CELEBRITY STATUS

While many arcade games command an audience, few are as memorable as Doris Self. On 1 July 1984, Doris Self (aged 58) held a record score of 1,112,300 on *Q*bert* and is in the Guinness World Records for being the oldest competitive female gamer. "A friend of mine sent me a newspaper article about Doris some years ago. Sadly I never met her, but was excited to see her represented in the documentary *King Of Kong*," says Warren Davis. "Well, God bless her! She's a better player than I! Long may her record hold!" says Jeff. Two years later her score was beaten, but *Pac-Man* record holder Billy Mitchell ensured she kept playing by giving her a *Q*bert* arcade machine. At 79 years of age, Doris Self attempted a new record, but sadly failed and was tragically killed after a car accident in 2006.

» *Q*bert's Qubes* was the official sequel to *Q*bert* and played like Tic-Tac-Toe.


Q*bert™
WHO'S WHO
and WHAT'S WHAT
Our hero hops from cube-to-cube, changing the colors as he goes. His task is to make all the cubes the same color.
Like his brother, Slick, Sam makes Q*bert's job harder by changing the colors of the cubes he touches.
This magic ball will freeze the board if Q*bert catches it. For a short time, Q*bert can hop around freely and try to complete his task.
Although he's no threat to Q*bert, Slick changes the cubes he hops on back to their original color.
When a purple ball reaches the bottom, it becomes Coily. This snakey villian chases Q*bert, trying to smash him.
Wrongway travels sideways along the cubes, and stops Q*bert if they touch.
Just like Wrongway, Ugg travels sideways and is dangerous to touch.
Q*bert hops on the flying disc to escape Coily and return to the top of the pyramid.
© 1982 D. Gottlieb & Co. All Rights Reserved

blue! My original written and hand-drawn proposal had a hairless Q*bert and armless enemies on different planes. The look of those foes did not survive."

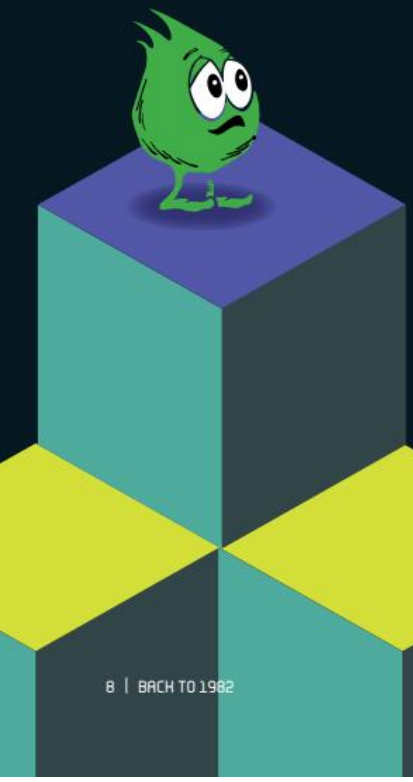
Around about this time, Warren Davis was hired after applying for a job advertising for videogame programmers. He saw Jeff playing with the pyramid, complete with critters, and asked if they could be used in a game while Warren gave himself "an exercise of programming randomness and gravity by having balls drop down a pyramid of cubes." With the basics in place, the next key step involved tops of the cubes changing colour when Q*bert landed on them. "One night I was working late," explains Warren. "I'd got so far as to have a pyramid of cubes with balls dropping from the top of the screen and bouncing down. I had the orange player character jumping around the pyramid. So this one night, I was playing what I had so far, with Ron Waxman, the VP of engineering, sitting behind me. I remember playing the game, jumping around from cube to cube avoiding the balls, and wondering what the next step should be. And Ron's voice came from behind me… 'What if the cubes changed colour when he lands on them?' It was perfect."

It was at this stage that Warren implemented the unique control system, which meant that the main character could only move in diagonal directions across the board and couldn't go side to side. Anyone who first plays *Q*bert* can attest it takes quite some getting used to and it was a decision that came under scrutiny at the time. "Having the joystick mounted in a standard orientation made no sense, so I stuck to my guns and deflected those criticisms whenever they were brought up. As I recall, that was pretty often," remarks Warren.

"The '@!#?@!' was my doing," reveals Jeff on the asterisk bubble that gives Q*bert his distinct personality. "I just presented it as given on a lark. It actually lasted for quite some time and went out on test with that type of title. One of my few journal entries regarding my Gottlieb work is for Saturday 11 September 1982: 'Meet Mom & Roland at Brunswick Bowl and play @!#?@!' A player constantly! I felt at this point we had a winner on our hands." The unique speech bubble inspired Dave Theil, Gottlieb's sound wizard at the time, to come up with the gibberish the character is renowned for within the technology's limitations. "The sound board had a phoneme generator," explains Warren. "You could string phonemes together to get English phrases, but it sounded very mechanical and lifeless. Rather than program English phrases, he had Q*bert speak by emitting the phonemes at random. There are only two actual English phrases generated by the game. When you turn the power on, it says, 'Hello, I'm turned on.' And when a game ends, it says 'Bye-Bye'." Rick Tighe came up with the idea of adding the

» [NES] The controls were a little tricky, but the NES still received a good port of Q*bert.

"Q*BERT HAS NOT BECOME A CROSSWORD PUZZLE STANDARD, THOUGH IT WAS IN THE NEW YORK TIMES IN 2007" JEFF LEE



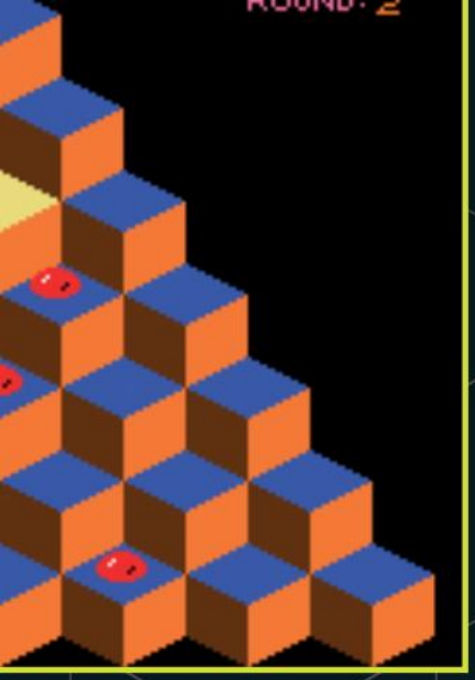
pinball hardware, which generated the mechanical 'KA-CHUNK' sound when Q*bert falls off the pyramid.

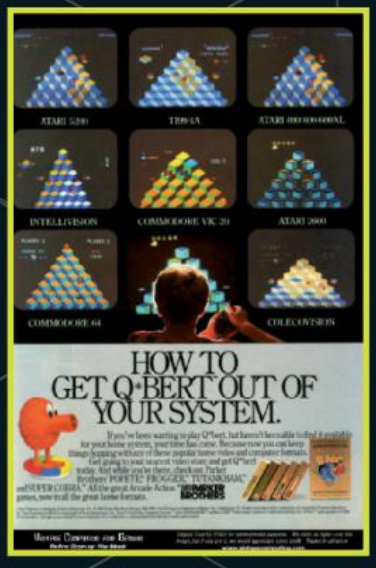
Warren recalls how the game was tested: "When it was getting closer to production, we would build engineering samples and place the cabinets in arcades for testing. Part of this was to see how much the game collected. But we would also hang around to watch people. When *Q*bert* was first tested in an arcade, some people would jump off three times in quick succession, basically losing their quarter in about ten seconds. For a while, I was terrified that nobody was going to get it, but strangely enough, most people would come back and give it another try, and eventually get the hang of it. We also had focus groups. I sat in on them, watching people play through a one-way mirror."

Yet while the game proved that it would be popular, it still didn't have a name aside from the project name of 'Cubes' (Jeff Lee's original idea 'Snots And Boogers' was discounted). "Everyone agreed that the name of the player character should be the name of the game," explains Warren. "We went around to everyone who worked at Gottlieb and generated a list of names, maybe 50 or 75 names. Most were terrible. None were chosen. Our vice president of marketing, Howie Rubin, wanted to name the game '@!#?@!?', and even though pretty much everyone thought that was ridiculous, a number of games went out on test with that name on the marquee. One of the objections was 'How are people going to ask for it, or talk about it?' and Howie said, "If the game's as good as we think it is, they'll find a way." Realising we needed to come up with a name, we had a meeting. I don't remember how long it lasted, but there was a point at which someone threw out the name 'Hubert'. That got written on the whiteboard in front of the room. Someone else made the connection with the idea of 'cubes' and it became 'Cubert'. That didn't look right, so someone else, it may have been Rich Tracy, our art director, changed it to 'Q-bert'. And everyone just knew it was right. (The dash may have become an asterisk before the meeting was over)."

The main character of Q*bert became as popular as the game itself, going on to generate a vast array of memorabilia including action figures, wind-up toys, board games and colouring books making it one of the most merchandised arcade games after *Pac-Man*. At one stage, an animated TV series was produced ("If anyone has copies, let me know!" – Jeff Lee) and Jeff was involved with the creation of a fizzy drink commercial. However, none of the merchandise was ever sent to Warren or Jeff, resulting in them having to purchase items personally.

Yet while *Q*bert* was coining it in for Gottlieb, the same could not be said for the main players behind its creation. "I received a small bonus for my work on *Q*bert*, but I never got





The ColecoVision conversion is cited by Warren as being the most arcade faithful (scan from www.vintagecomputing.com).

THE HISTORY OF Q*BERT

Faster Harder More Challenging Q*bert

"It was ready for release when the original *Q*bert* was enjoying its run and for some reason, the revamped version was shelved. I released the *Faster Harder More Challenging Q*bert* Rom images to them (MAME), so now the game is available to all," explains Warren.

Q*bert's Qubes

The official sequel to *Q*bert* programmed by Neil Burnstein, *Q*bert's Qubes* sees you having to rotate a cube so all colours of each side match the colours of the target cube. The player must get five cubes in a row to progress a stage further.

Q*bert 3

A standalone sequel released for the SNES, *Q*bert 3* is based on the arcade game set across 20 themed levels offering different playing fields to the classic pyramid setup we've become accustomed to. It even keeps the traditional control method of the arcade version.

Q*bert's Quest

Not a videogame, but this pinball machine does star the big-nosed curiosity so we're mentioning it here. It's most unique feature is that of the four flippers in an X formation. Like in the game, all fields in the pyramid have to be lit to score points.

DEVELOPER HIGHLIGHTS

MAD PLANETS
SYSTEM: ARCADE
YEAR: 1983

PROTECTOR (VIDEOMAN)
SYSTEM: ARCADE
YEAR: 1984

US VS. THEM
SYSTEM: ARCADE
YEAR: 1984

any money from merchandising or home games. After *Mach 3* was released, the company started a royalty programme, which was not retroactive. If *Q*bert* had been produced under that royalty programme, I would have received royalties of around $100,000. Sadly, it wasn't and I didn't," explains Warren. "It got me a bonus and a substantial raise, which was only good for two years, when the company went out of business," remembers Jeff. "And I earned some money doing the graphics for the port (*Q*bert 3*), but that's it. It's mostly glory and the undying respect of my children!" Despite this, both Warren and Jeff have fond memories of the orange noser. "There are so many memories I have from that time, I couldn't describe them all, but one that stands out is watching the first *Q*bert* cabinets rolling off the assembly line. Another is watching people play *Q*bert* for the first time when we were testing in arcades," explains Warren. Jeff recalls the creative process the most fondly. "My strongest memory is drawing out the characters in pixel form on graph paper and colouring them with colour pencils. This may be because it is a tangible artefact of the working process, which I still possess."

By 1984, the market had reached its peak. Although *Q*bert* was a terrific success followed by several sequels (see 'The History of Q*bert' boxout) few of the arcade games that followed caught the public's imagination in quite the same way. Coca-Cola pulled the plug on the videogame division while the pinball aspect of Gottlieb was sold to VP and European investors, which operated until recently as Premier Electronics. Jeff carried on working in the field of videogames as a freelancer while Warren divides his time between programming and an acting career.

Even now, the hold of *Q*bert* remains and is something that still manages to amaze Warren. "There seem to be two reactions I get nowadays when people learn that I created *Q*bert*. One is, 'Oh my God! I really loved that game!' The other is a more humbling, 'What's *Q*bert*?' It really is amazing to me that anyone remembers this game at all after so many years, let alone fondly. While there are other accomplishments I made in the arcade industry of which I'm proud, *Q*bert* remains something of a phenomenon. I'm very, very grateful to have been allowed to helm its creation." When asked what he would change about *Q*bert*, Jeff wittily replies, "I would like to have changed the asterisk to something else, for two reasons – it's a wild-card search term, which caused problems, and because of the asterisk, *Q*bert* has not become a crossword puzzle standard, though it was in the *New York Times* in 2007."

And what would Q*bert have to say about his ongoing popularity? "I'm thinking he would say what the *Q*bert* arcade cabinet says when it is powered on… 'Hello, I'm turned on'." remarks Warren. Jeff sums it up for us perfectly with his Q*bert-like response: "I'M POPULAR? THEN GET ME OFF THIS @*&%$! PYRAMID ALREADY!"

» [Atari 2600] *Pac-Man*: infamous for being made in huge quantities and being buried in a big hole.

» [Arcade] *Robotron: 2084* was, and still is, simply one of the best coin-op games ever.

THE LATEST NEWS FROM MARCH 1982

MARCH 1982 Pacmania hits Atari 2600, Atari devours Munchkin, Robotron: 2084 hits the arcades, Coleco goes tabletop gaming, Imagic unveils its first wave of games and Clive Sinclair gets ready for a rubbery future. Richard Burton prepares for chuntey

Atari released the highly anticipated 2600 conversion of that *Pac-Man* game that was still packing out arcades across the world. Their Atari 2600 cartridge hit the video game stores of America priced $37.95 and sold unbelievably well, to begin with…

Pac-Man on 2600 gave game reviewers a field day. They dissected the game and micro-analysed every single aspect, such was the weight of expectation. And their initial reaction was not good. With flickering sprites, dull unimaginative mazes, sounds and colours bearing little resemblance to the original arcade game, no bonus fruit, an escape tunnel positioned so poorly it was completely devoid of usefulness, and Pac-Man himself not even facing the correct way when moving up and down a maze, there was plenty for them to be disgruntled about.

It wasn't the worst videogame ever made, but it was a hugely disappointing arcade conversion. It bore all the hallmarks of something that had been hurriedly cobbled together for a rushed release to satisfy the urges of oodles of *Pac-Man* fans. Still, Atari felt it was going to be a massive seller and produced the cartridge in colossal quantities. They thought literally every Atari 2600 owner, around 10 million at that time, would want a copy and estimated another two million would buy a console just to play *Pac-Man*.

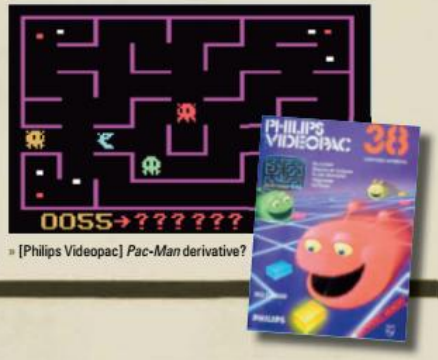
With extreme optimism and a complete disregard for economics, Atari produced 12 million cartridges and waited for a tidal wave of money to hit them squarely in the bank balance. To be fair to Atari, *Pac-Man* did eventually go on to become the biggest selling Atari 2600 game ever with seven million unit sales, but that still left a mammoth amount of plastic going unplayed and unloved. The surplus cartridges became the stuff of legend when they were eventually dumped, along with several million copies of Atari's other infamous games release, *E.T. – The Extra-Terrestrial*, in a big hole topped off with an extra thick layer of cement somewhere in New Mexico.

With *Pac-Man* hitting stores and the wallets of parents with equal ferocity, it was the turn of Philips and Magnavox to invite the wrath of Atari's legal department into their lives. Having been licensed to create the first home versions of Namco's *Pac-Man*, Atari was once again miffed. The Magnavox 2/Philips Videopac game *Munchkin* had been released and sold relatively well for several months.

The game was *Pac-Man* in style but with subtle differences which actually made the game a lot more playable than the belated Atari version. With Pacmania spreading, *Munchkin* was given an advertising push in the press and Atari took notice. Atari had already, unsuccessfully, tried to halt the sale of *Munchkin* by citing copyright infringement but persisted and on appeal they won. *Munchkin* was withdrawn from sale.

While arcade coin-op conversion releases were less than fantastic this month, one new game released into murky arcades across the country would soon become an all-time fan favourite. Vid Kidz, a games development company formed by Eugene Jarvis and Larry DeMar, who had left Williams Electronics just over a year ago, had created a new coin-op, *Robotron: 2084*, for their former employer.

The basic premise of the game was that you live in a time when robots have taken over and turned against their creators. Your task is to destroy all the robots and save as many surviving humans as possible while racking up as many points as you can. The 2D single-screen shooter didn't sound that awe-inspiring and the graphics looked simplistic even for 1982. However, the gameplay was amazing. With an intensity that few other arcade games had, the constant waves of robots kept the adrenaline pumping throughout. It was



» [Philips Videopac] *Pac-Man* derivative?

MARCH 1982 NEWS

19 March saw around 50 Argentines land at Leith Harbour in South Georgia, part of the British colony of the Falkland Islands, and plant the Argentine flag. The group allegedly had a commercial contract to collect scrap metal although this was disputed as they had arrived on a ship chartered by the Argentine government. The event was seen as an act of provocation with talks having broken down between British and Argentine governments regarding the sovereignty of the Falklands. Talks had been held in February between the two governments but they collapsed after Argentina declared it would seek other means of solving the dispute more quickly.

5 March saw the death of American actor and comedian John Belushi. He found fame as one of the original members of the TV show *Saturday Night Live* which he later left to pursue a career in film. He starred in *1941* and *Animal House*, but would be best remembered for playing Joliet Jake Blues, one half of the Blues Brothers.

» *The Blues Brothers* was accompanied by a rather funky soundtrack, which included plenty of famous musicians.

Notable movie premieres this month included the comedy *Porky's* (19 March) and Arnold Schwarzenegger's *Conan The Barbarian* (15 March) while on US television, the comedy series *Police Squad!* starring Leslie Nielsen as Sergeant Frank Drebin, aired for the first time. It ran for just six episodes before being cancelled, despite being well received. Thankfully Frank Drebin returned once more as the hapless sergeant six years later in the first of three *The Naked Gun* movies.

» Coleco released official tabletop versions of classic coin-ops. No 10p pieces needed, just vast amounts of batteries.

difficult at times but the learning curve wasn't harsh enough to turn you off the game. Also, the ingenious control system was as intriguing as it was precise, with Jarvis opting for a dual joystick control; one for direction and one for shooting.

Robotron: 2084 proved to be a huge arcade smash, and rightly so, and it still remains one of the most enjoyable arcade games ever produced. However, it did attract a spot of legal wrangling when the mighty Walt Disney attempted to sue Williams for their use of 'tron' in the game title as it, apparently, infringed on the copyright of their new movie *Tron*. Thankfully, common sense prevailed and Williams won.

Arcade games were set to shrink, thanks to Coleco and a licensing agreement with arcade game manufacturers. Some of the biggest coin-op names in the arcades were set to be converted into electronic tabletop versions complete with super bright fluorescent displays and a penchant for guzzling batteries. Among the first wave of releases were official versions of *Pac-Man*, *Frogger*, *Donkey Kong* and *Berzerk*.

Formed late in 1981 and just beginning to release software was Imagic. Primarily focusing on the console gaming market, it specialised in producing Atari 2600, Mattel Intellivision and ColecoVision games. It was only the second third-party games developer to be producing games for the 2600 (the first being Activision) and, like Activision, several of Imagic's key figures were former Atari and Mattel employees. Impending releases by Imagic for the 2600 included *Atlantis* and the *Phoenix* clone *Demon Attack*, with the Intellivision getting the uniquely playable *Micro Surgeon*.

Excitement was building as titbits of information regarding Clive Sinclair's new computer began to sneak into the computing press. Apparently his new colour computer would have a rubber keyboard, a choice of 16K or 48K models and unlike the ZX81, it would have colour and sound. The new machine would be out next month but what would it be called? The ZX81 Colour or ZX82? Neither, it was the ZX Spectrum that was about to change home computing and gaming in the UK forever.

» Sinclair's ZX Spectrum is due for release in April. Home computing and gaming will never be the same again…

THIS MONTH IN...

YOUR COMPUTER

YC interviewed the producer of the BBC TV show, *The Computer Programme*, the pre-cursor to *Micro Live*. Paul Kriwaczek told of problems finding a main presenter until David Bellamy, the bearded botanist, who had worked with Kriwaczek before, mentioned the name of Ian McNaught-Davis.

COMPUTER & VIDEO GAMES

C&VG and Taito organised the Best Arcade Player tournament in London. Nine finalists competed on various machines with new coin-op, *Qix*, being the deciding game with Peter Whitton emerging triumphant. Embarrassingly, Steve Davis, snooker star and tournament presenter, challenged Peter to a game of *Qix* and beat him.

ELECTRONIC GAMES

The American magazine looked at the Atari 400 computer. It had a distinctive monoplaner (touch-activated flat switch) keyboard. "It is an excellent foundation for a home gaming system" and "judging by its rapid acceptance by consumers, gamers evidently share this opinion," *EG* felt.

CHARTS

MARCH 1982

ACORN ATOM

1. Atom Chess (Bug-Byte)
2. 3D Asteroids (Program Power)
3. 747 Flight Simulation (Bug-Byte)
4. Space Invaders (Bug-Byte)
5. Minefield (A&F Software)

ZX81

1. Football Manager (Addictive Games)
2. Chess (Micro Gen)
3. QS Asteroids (Quicksilva)
4. Dictator (Bug-Byte)
5. Centipede (DK 'Tronics)

APPLE II

1. Castle Wolfenstein (Muse)
2. Space Eggs (Sirius Software)
3. Alien Typhoon (Star Craft)
4. Gorgon (Sirius)
5. Raster Blaster (BudgeCo Inc.)

MUSIC

1. The Lion Sleeps Tonight (Tight Fit)
2. Seven Tears (The Goombay Dance Band)
3. Mickey (Toni Basil)
4. Just an Illusion (Imagination)
5. Quiereme Mucho (Yours) (Julio Iglesias)

» [Atari 2600] There's no Pyramid Head here to scare the bejesus out of you, just blocky graphics, great sounds effects and your imagination.

» [Arcade] Namco's *Dig Dug* proved that a simple idea is usually the best. Can you dig it?

APRIL 82
The Spectrum arrives, Snoopy does tennis, Haunted House scares the 2600, there's a commotion about Loco-Motion, Sinclair User debuts and Dig Dug's no dog. Richard Burton goes for a Pooka…

THE LATEST NEWS FROM APRIL 1982

23 April 1982 saw the official release of Clive Sinclair's ZX Spectrum computer. Love it or loathe it, it would make an massive impact on the British home computing scene and kickstart the golden era of 8-bit gaming and the bedroom coding boom.

£125 would get you a brand new 16K version of the Spectrum, complete with its dead flesh feel rubber keyboard and tinny speaker. £50 more would get you the 48K version. Although, when we say "get"…

Despite being officially released and available via Sinclair Research's mail order department, the overwhelming demand for the machine meant that the earliest that anyone got their Spectrum was June. With an impressive backlog of orders piling up, the Advertising Standards Authority stepped in to give Sinclair Research a reprimand for not adhering to their 28-day delivery promise.

Sinclair estimated that they would sell around 20,000 units a month. Such was the clamour for this new, cheap, colour computer that the actual figure would be closer to 20,000 units a week.

The foibles of Sinclair's marketing, advertising and manufacturing may have been less than perfect in its earliest days but the Spectrum was gathering an impressive army of users. Its quirkiness, the rubbery keyboard, the colour clash and substandard sound all seemed to galvanise fans. It was the quintessential British micro.

The enthusiasm for the Spectrum brought a wave of solo bedroom coders trading their wares and because of this the Spectrum's software base grew exceptionally quickly.

Away from Spectrum news, Sinclair had agreed a new licensing deal with Timex to manufacture and sell their computers in the USA, with Sinclair receiving royalties from the sales. Timex manufactured the ZX81 in Dundee at a rate of knots; approximately 60,000 units a month, though only 20,000 were for the UK market. When Timex started manufacturing in the USA, it would be a Timex clone rather than a Sinclair-branded computer that went on sale.

Sinclair Research also announced profits had risen from £4.6 million to £30 million from the previous year. The future looked extremely rosy for Clive and his company.

A new cartridge out for the Atari 2600 was *Haunted House*. Developed and released by Atari, it is often considered to be the first survival horror videogame. Granted, its graphics weren't going to get you soiling yourself with fear, but the atmosphere built up during gameplay, aided by some carefully positioned sound effects, really did get your imagination running riot.

The premise of the game was to enter a haunted mansion, collect the pieces of a broken urn and get out. Sounds simple, but the pitch black rooms were home to bats, spiders and ghosts and the only way of telling if something was near you was by holding a match for light. These can be blown out by the wind at the most inopportune moments, rendering your next step into the total blackness of the room a potential deadly one. The graphics weren't great, but the sound effects added to the tension with some great creaky door, wind, thunder and eerie footstep sounds. Thought a 2600 game couldn't give you the willies? Think again.

Nintendo unveiled another addition to their Game & Watch handheld collection with the release of the widescreen game *Snoopy Tennis*. Charlie Brown serves tennis balls, and Snoopy must hit the ball back. There is no net but there is a tree that Snoopy must climb to return the erratic serves. Three lives lost and it's over. It was simple, frantic gaming and one of the best loved and best selling Game & Watch titles.

» [Arcade] Everybody's playing a brand new game now. Come on baby, do the *Loco-Motion*.

APRIL 1982 NEWS

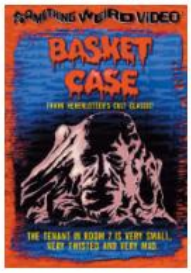
2 April – the Falklands War between Great Britain and Argentina over the sovereignty of the Falkland Islands begins. After months of tension between the two nations, Argentine forces invaded sending 3000 troops to take the Falklands. The entire island population was only 1800 with 80 Royal Marines stationed there. They were vastly outnumbered and the Islands were easily taken.

Diplomatic ties were cut, tensions rose and the then Prime Minister Margaret Thatcher dispatched a large naval fleet to liberate the Falklands. They arrived on the 25 April and after a two hour battle involving Royal Marines on the island of South Georgia re-established a British presence in the Islands.

Argentina's Foreign Minister responded by stating that this action would "have very grave consequences for peace". You were not wrong, Minister.

2 April saw *Conan The Barbarian* starring Arnold Schwarzenegger make its debut in UK cinemas. The slave child grows up, becomes a muscle-bound goliath of a man with a hefty broadsword seeking out the warlord who slaughtered his tribe.

Another movie making an April debut was the cult horror flick, *Basket Case*. Duane turns up at a rough motel with nothing more than a large basket.



He rents a room and feeds the contents of the basket – his psychotic and deformed Siamese twin brother, Belial, who was surgically removed against their will.

Belial is out for revenge against the doctors who separated them and soon he'll be out of his basket and coming for them…

Centuri released a new coin-op, under licence from Konami, which saw the introduction of *Loco-Motion* into arcades. Your aim was to get a train from one end of the track to the other by means of reordering the track layout one square at a time, similar in style to those plastic sliding puzzle games you'd get in goody bags at birthday parties. While they were rubbish, *Loco-Motion* was a little gem of a coin-op that required tactical skill and forward planning rather than a quick trigger finger.

Sega also released *Loco-Motion* under licence from Konami but renamed their version *Guttang Gottong*. Yep, we've no idea either. Three years later, budget software house Mastertronic released their conversion of *Loco-Motion* on the Spectrum and Amstrad.

More well-known, but just as fun to play was the coin-op release of Namco's *Dig Dug*. Your task was to clear each level of underground dwelling monsters, Pookas and Fygars, by crushing them with rocks or inflating and popping them. You accessed them by digging tunnels, with more points awarded by dispatching them in the deeper colour-coded levels of earth. *Dig Dug* became an instant hit and future all-time classic coin-op.

» Clive Sinclair's ZX Spectrum is released. It's a mere two-year wait until *Jet Set Willy* is released.

» [Game & Watch] Charlie Brown (and occasionally Lucy) smack tennis balls at Snoopy who hits them back…

There were two new publications hitting the newsstands of the UK during April. Timed to perfection was the release of *Sinclair User*, originally published by ECC Publications and later by EMAP. It took a semi-serious approach to computing with plenty of focus on programming, although it also had ample games coverage and the obligatory type-ins. *Sinclair User* was one of the best-loved magazines of the time and ran for 134 issues over 11 years.

Also out was a new weekly read, *Popular Computing Weekly*. The first weekly magazine of its kind in the UK, the magazine was an easy read; a mix of games, news and features with a sprinkling of type-ins and yours for just 30p a pop…

THIS MONTH IN...

SINCLAIR USER

SU's Helpline, the techy programming troubleshooting section, was written by one Andrew Hewson. That's Hewson, as in Hewson Consultants, the small software house that would create and release some cracking future software classics. *Dragontorc, Cybernoid, Exolon, Avalon* and *Nebulus* anyone?

COMPUTER & VIDEO GAMES

Computer & Video Games magazine looked to the USA for forthcoming technological attractions. Commodore was unveiling its Ultimax computer, while Texas Instruments had additions to its education electronic toy range including the dubiously named Touch & Tell, a junior version of Speak & Spell.

ACTIVISIONS

Activisions was a fan club newsletter for the well known third-party Atari 2600 software developer. If creating some fantastic titles for the VCS wasn't enough, they also had one of the best ever incentive schemes to buy and succeed at their games, with their rewards in the form of marvellous high score sew-on patches.

CHARTS

APRIL 1982

VIC 20

1. Vic-Men (Bug-Byte)
2. Jupiter Lander (Commodore)
3. Another Vic In The Wall (Bug-Byte)
4. Deflex (DK'Tronics)
5. Road Race (Commodore)

ZX81

1. 3D Monster Maze (JK Greye Software)
2. Football Manager (Addictive Games)
3. Centipede (DK'Tronics)
4. The Damsel & The Beast (Bug-Byte)
5. Dictator (Bug-Byte)

ATARI 2600

1. Parachute Pete (Atari)
2. Pac-Man (Atari)
3. Missile Command (Atari)
4. Asteroids (Atari)
5. Kaboom! (Activision)

MUSIC

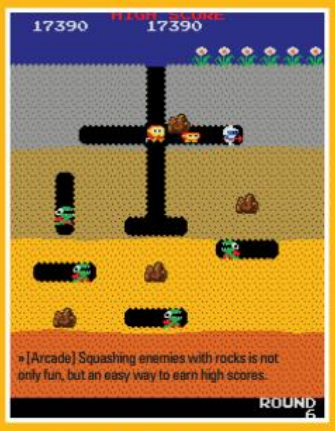
1. Ebony & Ivory (Paul McCartney & Stevie Wonder)
2. My Camera Never Lies (Bucks Fizz)
3. Seven Tears (Goombay Dance Band)
4. Ain't No Pleasing You (Chas & Dave)
5. Papa's Got A Brand New Pigbag (Pigbag)

KIDS DON'T TYPICALLY LIKE VEGETABLES – BUT DIG DUG PROVES THEY GET FAR MORE PUMPED UP ABOUT THEM WHEN THEY HAVE TO BEAT MONSTERS TO GET THEM. NICK THORPE LOOKS AT WHY WE STILL DIG THIS ARCADE CLASSIC...

Mining isn't an easy job. Even if you're okay with the claustrophobic tunnels and long-term health issues, there are the dangers of explosions and cave-ins. But however bad it is in the real world, it's slightly worse for our hero in *Dig Dug* – sure, he might get squashed by falling rocks or die a horrible fiery death, but he's also got to deal with the monsters that are the reason he's down there in the first place. Luckily, he's able to fight with a unique piece of weaponry. By spearing his enemies and using his trusty pump, our protagonist can inflate the bad guys until they explode!

Prior to *Dig Dug*'s 1982 arrival, Namco had already experienced success with two popular maze games. *Pac-Man*'s success requires no recap, but *Rally-X* was also popular and became a part of the company's oft-revisited heritage. Both games followed a similar formula – the player was cast in the role of prey, forced to evade predatory enemies while collecting items in a maze. *Dig Dug* took this winning formula and inverted it – in this game, the player also takes the predatory role, as the elimination of all enemies is the only requirement to pass a stage. Of course, your enemies aren't defenceless. While the player is usually in a more favourable position ▶

PIXEL PERFECT



» [Arcade] Squashing enemies with rocks is not only fun, but an easy way to earn high scores.

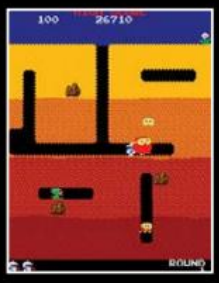
▶ in any one-on-one confrontation, the enemies are aggressive and can take advantage of their greater number.

What's more, beyond a few pre-placed caves, the player creates the mazes by digging. Because the ability to dig allows you to go anywhere, the classic maze game trap of being caught between two enemies is no problem. But while you can go anywhere, so can enemies. They're mostly content to stick to the maze, however they'll occasionally turn into ghostly forms and start travelling through the dirt, meaning that you're never truly safe from attack. Enemies travel slowly through the dirt, too, meaning that you have an incentive not to create too many tunnels.

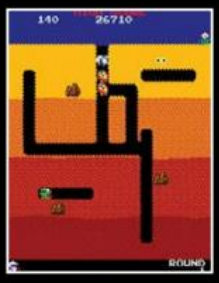
Of course, it'd be dull to create a game in which your only goal was to hunt and kill cannon fodder relentlessly, so some elements of risk and reward were added to *Dig Dug* to keep things interesting. For a start, while the Pooka enemies are fairly unthreatening, the Fygars can shoot flames horizontally – but you'll get double the points if you attack them from a horizontal position. Rocks are potentially risky, too. Each stage hosts a few rocks buried in the dirt, and you can dislodge them simply by tunnelling beneath them. A falling rock will kill anything it hits – Pookas, Fygars and even you. Why not simply avoid them, you wonder? Easy: a falling rock kill is worth considerably more

DIGGING DEEPER

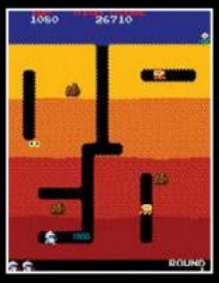
Tips for survival and high scores in the dark depths



1 Enemies are faster than you, but you can run right through them if they're deflating, so get your pump ready to stun before you run.



2 If you're being pursued by two enemies, pump one. As the second passes it, disengage your pump by turning away to pop them both.



3 The deeper you dig, the more points enemies will be worth when popped. When you can, try to attack enemies in the bottom layer of soil.

4 You can fire your pump through a thin layer of dirt, creating a shield. A Fygar can just breathe fire through it, though, so be careful.

5 The best way to attack a Fygar horizontally is to stun it verticaly, allowing you to safely move to the danger zone and get extra points.

6 Always prioritise a Fygar over a Pooka when you need to destroy an enemy – a Fygar can toast you from afar while you're inflating a Pooka.

7 Flattening enemies by dropping rocks on them will earn you more points than popping them, so be sure to do this if you're after high scores.

8 Bonus items will not appear until two rocks have been dropped, so it's worth dropping them regardless of what's underneath.

9 The last enemy will flee to the top-left corner – only kill the penultimate enemy if you're able to catch the last, so you don't miss out on points.

10 Score high to keep playing! Under most settings, you'll earn an life at 10,000 or 20,000 points, and at various scores thereafter.

points than a standard one, especially in the upper layers, and hitting multiple enemies will award major points. Better yet, dislodging rocks is the only way to trigger the bonus items, which are a variety of foods grown in the ground.

Despite the subterranean theme of the game, *Dig Dug* was far from being an underground hit. The cabinet had appealing artwork, the banjo-style ditty that plays throughout the game sticks in your head easily, and although there were mechanical innovations over Namco's previous maze games *Dig Dug* is, ultimately, a pretty simple game. Namco's testing found that not only was the game accessible, but it appealed to different players in different ways, with some enjoying rock-dropping and others preferring to frantically pump enemies. Not only was the game successful in its native Japan, but also in export markets where Atari sold thousands of cabinets. The game soon found its way to any machine that could run a game.

Later in 1982, Universal's *Mr Do!* would arrive in arcades. Though not officially related to *Dig Dug* in any way, the game greatly expanded on the digging-based gameplay of *Dig Dug* and for many, the two games are closely linked. For fans of *Dig Dug*, its arrival was a blessing – Namco took a long time to capitalise on the success of *Dig Dug* with a follow-up, as the official sequel, *Dig Dug II*, wasn't released until 1985. What's more, the sequel wasn't actually as similar to the original as you might imagine. The game switched to an overhead perspective and allowed the protagonist to defeat enemies (Pookas and Fygars, once more) either by inflating them or sinking the ground they stood on. Unfortunately, it wasn't nearly as popular as the original. As a result, the only contemporary home conversion for *Dig Dug II* was for the NES and it appears on far fewer compilations.

The *Dig Dug* series was trapped below ground until 2001, when Infogrames licensed the game for a low-budget PC revival called *Dig Dug Deeper*. The new game combined aspects of the first two games and received a relatively unenthusiastic response all round. Convinced that there was a good idea buried in that game, Namco once again chose to combine *Dig Dug* and *Dig Dug II* in 2005's *Dig Dug: Digging Strike* for the Nintendo DS. This game focused on boss fights and received a fairly average reception. Namco has also twice remade *Dig Dug* under the title *Dig Dug Arrangement* – once for *Namco Classic Collection Vol. 2* in 1996, and again for *Namco Museum Battle Collection* in 2005. These ▶

» [Arcade] Your last enemy will always try to flee the screen – hunt them down without mercy!

Q&A: DOUG MACRAE

The General Computer Corporation founder shares his memories of converting Dig Dug to the Atari 2600

Had you played *Dig Dug* before you got the job of working on the Atari 2600 version? If so, what did you think of it?
Yes, I had travelled to Japan to see the game so that I could help advise Atari's licensing group. Once Atari had obtained the licence, we received a coin-op version so that we could closely examine the game.

Who was on the team for the Atari 2600 version?
Ava-Robin Cohen did most of the game programming and I did the display kernel. Patty Goodson did the sounds and music. Randall McLamb did the graphics.

What access to the original *Dig Dug* arcade cabinet did you have while working on the conversion?
We had a coin-op cabinet in our lab.

What were the challenges of getting the game on the 2600?
Dig Dug could have many characters on the same horizontal line. The Atari 2600 supported two characters (sprites) on the screen but these could be reset on a scan line basis. We had set up the screen such that we would be resetting the characters, but that we would be multiplexing (flickering) the characters if we had more than two in a horizontal zone. Since the Dig Dug character was the most important, he was allocated more time during multiplexing than the other characters. In the end, the display worked quite well with very little flicker.

How long did you have to work on the game?
We were given four months.

What aspects of the Atari 2600 version of *Dig Dug* were you most pleased with?
The display. We had reduced the flicker such that its impact was pretty minimal.

CONVERSION CAPERS

1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989

ATARI 8-BIT 1982

■ While most Atari versions of *Dig Dug* are good, this first effort is a stinker. It's visually subpar, with wrong-coloured enemies and featureless dirt, and the collision detection is awful. The music's good, though. Atari recognised the poor quality, and converted the Atari 5200 version to replace it in 1983.

ATARI 2600 1983

■ Considering the limitations of the 2600, this is excellent. The graphics are simplified and there's some sprite flicker, but the gameplay is authentic to the arcade version. There's also a new walking tune, too.

ATARI 5200 1983

■ Like most of the Atari versions, *Dig Dug* holds up well on the 5200. It looks closer to the arcade game than many of the early conversions, thanks to good dirt colours and some rather nice detail work.

APPLE II 1983

■ The Apple II version was panned at the time, and we can see why. This conversion is not only ugly, but slow and unresponsive. Everything is in, from the music to the flowers, but it's all quite sub-par.

FAMICOM 1985

■ Being more powerful than most machines on this page, it's no surprise that the Famicom presents one of the best versions of *Dig Dug*. Neither the graphics nor sounds are arcade perfect, but they're about as close as you could expect.

SORD M5 1982

■ *Dig Dug* on the Sord M5 doesn't look very much like the arcade game, but those who seek it out will discover that it does play quite well. The most surprising aspect of the game is that the sound is very good – some of the best amongst the early conversions.

MSX 1984

■ While you'll be dealing with single-coloured sprites all the way here, *Dig Dug* is quite good on the MSX. The game moves along at a nice rate and plays authentically and that tune sounds pretty good indeed. The playfield is even the correct, vertical shape!

FM-7 1984

■ *Dig Dug*'s conversion to Fujitsu's FM-7 was handled by Dempa, and looks very similar to the company's earlier PC-8801 version. The dirt looks nicer but the sprites come off a little worse. Of the two this is preferable for its excellent rendition of the music.

COLECOVISION 1984

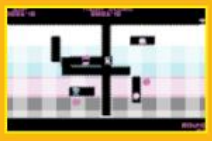
■ This Atarisoft conversion of the game exists only as a prototype, as the release was scrapped during the US videogame crash. It plays smoothly, though there's no music at all and the use of flickering to simulate extra colours isn't brilliant.

VIC-20 1983
■ Commodore's machine does a good job of replicating the arcade. It's not the prettiest version, but works well given its limitations. Unfortunately, the controls are less responsive than we'd hoped.

C64 1983
■ Atarisoft's *Dig Dug* is a great effort on the C64, which looks and sounds close to the arcade machine. The enemies are aggressive and you can't fire through thin walls, but this is otherwise a decent version.

TI-99/4A 1983
■ The TI machine gets a perfectly serviceable version of *Dig Dug*, featuring attractive visuals with a rather authentic look and some well-judged gameplay with slightly aggressive enemies.

PC 1983
■ This version is rather ugly, no matter which colour you use and the music consists of awful beeping. There's still a half-decent game of *Dig Dug* beneath all the presentational inadequacies, though.



SHARP X68000 1995
■ Micomsoft's double pack of *Dig Dug* and *Dig Dug II* came very late in the day for the X68000. As you'd expect for such an advanced, powerful machine, this version is basically flawless and really represents the first time *Dig Dug* had received an arcade perfect conversion.

INTELLIVISION 1987
■ Originally developed by Atari in 1984, this version was a victim of the US videogame crash. Thankfully, INTV bought the rights a few years later and tidied it up for a final release.

ATARI 7800 1987
■ *Dig Dug* looks good here, with authentic visuals and gameplay that works as well as ever. Unfortunately, like so many games, the 7800's sound hardware lets it down.

1990 — 1991 — 1992 — 1993 — 1994 — 1995 — AND MORE

▶ versions have new elements such as simultaneous two-player digging, boss fights, power-ups and more.

As well as direct sequels, *Dig Dug* has a spin-off series. The 1999 action-puzzle game *Mr Driller* entered development as a third entry in the *Dig Dug* series, before changing focus and promoting the new star Susumu Hori. It was, however, the game that finally gave *Dig Dug*'s protagonist his name – Taizo Hori. In Japanese, the name has a double meaning – the surname comes first and forms a pun on the phrase, 'horitai zo', meaning, "I want to dig." Taizo even shows up in a few *Mr Driller* games himself, and Susumu joins Taizo in *Dig Dug: Digging Strike*. As is the case with many of Namco's early games, *Dig Dug* is also frequently referenced in other Namco games, including the likes of *Ridge Racer Type 4* and *Namco X Capcom*, and appears on a variety of Namco Museum compilations. In 2012, Namco's subsidiary ShiftyLook introduced a *Dig Dug* webcomic to celebrate the game's 30th anniversary (but unfortunately, the site is no longer available) and the characters even showed up for cameos in Disney's arcade-themed movie *Wreck-It Ralph*.

There's still a great deal of love for *Dig Dug* out there. Even though *Dig Dug* has fallen into inactivity once again, Namco's constant use of the game in cameos and compilation releases shows the respect that the company has for its heritage. What's more, the way Namco uses *Dig Dug* shows the reason why the game is still regarded fondly by so many players – in an era when games were just starting to harness the power of character design, *Dig Dug* married easily-understood mechanics with attractive visuals to create an appealing game. It wasn't the deepest or most challenging game, but Pookas looked cute enough to draw even non-gamers in and the gameplay was beginner-friendly enough to keep them interested. Over 30 years later, none of that appeal has diminished – and that's why *Dig Dug* is a classic. ★

GAME BOY 1992
■ With no colour and a scrolling display, it might seem that the Game Boy version of *Dig Dug* is a little lacking. However, Nintendo's handheld offers an trump card in the form of *New Dig Dug*, an arranged version which radically changes the rules to provide a new experience.

AND THE REST...
■ As well as these stand-alone conversions, *Dig Dug* has appeared individually or on Namco Museum compilations for a variety of different formats, with most versions being arcade perfect or practically indistinguishable. Amongst the machines with such conversions are the PlayStation, N64, Dreamcast, PlayStation 2, Xbox, GameCube, Game Boy Advance, PSP, Xbox 360, PlayStation 3 and Wii.

» [Arcade] While Namco's *Pole Position* had just been released, *Defender* was still riding high in the arcade charts.

» [Game & Watch] *Oil Panic* was the first of the dual screen handheld Game & Watch games. Any likeness to the DS is deliberate.

MAY 1982
New magazines, Commodore has VIC hardware heaven and hell, Electron has no Christmas charge, Namco is in Pole Position while Williams goes on Moon Patrol and Nintendo suffers an Oil Panic. Richard Burton gets crude...

THE LATEST NEWS FROM MAY 1982

New magazine of the month was *Which Micro & Software Review*, published by EMAP. With no console coverage and little in the way of gaming news, the boast on the cover of twenty pages of new reviews didn't let on that these were mostly hardware.

If reviews of luggable computers, the "portable" machines that were more likely to promote the sort of muscle growth that no anabolic steroid could touch, were your thing then you were in luck. Amid technical specifications of a Research Machines 380Z and the Osborne 1 there were some gems such as a review of the new BBC Micro. Despite the dour start, *Which Micro* grew into an informative and, thankfully, more games-based read.

Another new addition to the magazine world, although not hitting any newsstands was *Atari Age*. Published by The Atari Club Inc, a subsidiary of Atari, and distributed exclusively to American members of the Atari Club, it was a colourful bi-monthly read which lasted just eleven issues.

After the recent Hanover Computer Fair that Commodore had attended, it revealed that it had two new computers under development for release before the end of the year; the VIC-10 and VIC-40. The VIC-10, renamed the VC-10 in Germany, Ultimax in America and Commodore Max Machine in Japan, was in essence a very cut-down version of the Commodore 64 and designed to be used more as a games console than a home computer. It had minimal expandability with ports available for only RF, cartridge, cassette and joystick and a horrid membrane keyboard in the style of the Atari 400.

Commodore proposed a £110 price tag for the UK release with a name as yet unspecified. With details of the system having been released days before the ZX Spectrum's launch, it was surprising to hear that within three weeks of that announcement that Commodore had abandoned the UK release. Was it in reaction to the Spectrum or the realisation that the micro wasn't really up to much?

Nobody knew for sure although the Ultimax proved to be such a flop across other territories that it was discontinued within months of release, though the VIC-40 was a different matter entirely. Designed to supersede the VIC-20, it was due to be released in August. It was renamed the Commodore 64 and became the best-selling home computer ever. The recently released ZX Spectrum had just found its main competitor.

Acorn had hopes of being the Spectrum's main challenger with news that it was planning to release a new micro called the Acorn Electron in the autumn with an eye on capturing the Christmas market with its sub-£150 machine. With its 32K of RAM and ROM and professional-feel keyboard, hopes were high of contesting Sinclair's new rubbery offering. Alas, manufacturing problems ensured that orders couldn't be filled until after the New Year, causing Acorn to miss the lucrative Christmas market, which proved to be a mistake that the Electron would never really recover from.

The last new offering, and easily the least useful, was the NewBrain from Grundy Business Systems. The entry-level basic model was £199 and Grundy labelled the NewBrain as being "designed for business, scientific and educational applications, as well as for home use". This home use afterthought summed it up. We racked our brains for a realistic home use for a NewBrain and could only think of using it as a doorstop.

ZX81 owners who were feeling left out in the cold with its new big brother hogging

» Despite looking like a potential 8-bit winner, a manufacturing delay lost the Electron early sales.

all the colour-clashed limelight needn't have felt neglected as Sinclair released a host of new titles for the computer; *Chess, Backgammon, Vu-Calc, Vu-File* and *Flight Simulation*.

All were developed by Psion and all would be quickly converted to the Spectrum and produced in vast quantities. All would also become prevalent eBay filler in Spectrum games auctions and would eventually become the only Spectrum games you'd ever see at a carboot sale bar *Scrabble* and *Make A Chip*.

Two new arcade games were announced for imminent release; Namco unveiled *Pole Position* and Irem/Williams Electronics spoke about *Moon Patrol*. *Moon Patrol* saw you take control of a moon buggy that had to negotiate a crater-stricken moon surface to reach checkpoints. Jumping over the craters isn't quite as easy as it sounds when there are boulders strategically placed in your way and UFOs shooting at you from above. Luckily you have upward and forward-facing guns to dispose of both. *Moon Patrol* was a fun and fast moving game, which is often cited as having the first instance of parallax scrolling in a side-scrolling videogame.

Namco's *Pole Position* was a more conventional racing game with a Formula 1 background. *Pole Position* also had a couple of videogaming firsts to its name. It was the first racing game which required the player to complete a time trial lap before qualifying for the main event, and was also the first game to feature a circuit based on an actual real-life racing track (the Fuji Speedway circuit in Oyama, Japan sports fans). These aspects of driving games are still key to the genre.

» The Grundy NewBrain, so-called as you needed a brain transplant to buy one.

Both games were big hits but *Pole Position* particularly grabbed the public's attention and became one of the biggest grossing arcade games of the year. *Moon Patrol* eventually appeared in June, with *Pole Position* emerging a month later.

Nintendo released its latest Game & Watch game, the first to feature a dual screen. In *Oil Panic* you had to catch oil droplets leaking from a pipe. Once full, you dumped the contents into an oil drum and missing an oil drop loses you a life. Once again, simple gaming won out, and the seeds were sown for the inspiration behind the future design of the Nintendo DS.

» Please be upstanding for the biggest selling home computer of all time – the VIC-40.

MAY 1982 NEWS

The Falklands War between the UK and Argentina continued with several ships being sunk during May. 2 May saw the nuclear submarine HMS Conqueror sink the Argentine cruiser, the General Belgrano with the loss of 323 lives. 4 May saw Argentina retaliate with an air attack on HMS Sheffield. 20 British sailors died and the ship finally sank on 10 May.

22 May saw the Royal Navy frigate HMS Ardent sunk with the loss of 20 lives. A day later HMS Antelope was hit in air attacks and sank after exploding on the 23 May. A further 22 sailors were killed in the event.

26 May saw the world premiere at the Cannes Film Festival of *E.T.: The Extra-Terrestrial*. Steven Spielberg's movie tells the story of Elliott, a young lad who finds an alien that he befriends. He attempts to keep him secret while devising a way of sending his glowy-fingered friend home. Other films of note shown at Cannes in May 1982 include *Chronopolis* and *Creepshow*.

13 May saw the animated television series *The Mysterious Cities Of Gold* make its debut. It's 1532 and Esteban, a Spanish boy, voyages to the New World to try and find his father. En route he encounters an Inca girl called Zia, who is also looking for her father, and Tao, who is looking for any remaining members of his race. The three are aided by their Spanish navigator friend Mendoza. All three of their quests become intertwined and point towards discovering the seven Cities of Gold...

THIS MONTH IN...

POPULAR COMPUTING WEEKLY

Being a weekly magazine had its benefits as *PCW* managed to knock out the first review of the new ZX Spectrum. Conclusion? "Great value for money and will prove a great success". Fair enough. However, they also thought that the as of yet unseen microdrive peripheral was a "sensation".

ATARI AGE

The Atari Club magazine revealed news that a new console was under development and due out for autumn. The 5200 would have better graphics, sound and a controller which would combine a joystick, paddle and keyboard into one unit. The wrist-breakingly stiff joystick of the 2600 was no more. Hurrah!

ELECTRONIC GAMES

EG and Midway had noticed a distinct increase in female arcade gamers and thought this boom could be due to non-violent games such as *Centipede* and the massively successful *Pac-Man*. A Midway spokesperson commented that as a debt to lady arcaders it would be releasing *Ms. Pac-Man*.

CHARTS

MAY 1982

ARCADE

1 Pac-Man (Namco/Midway)
2 Asteroids (Atari)
3 Defender (Williams)
4 Centipede (Atari)
5 Space Invaders (Taito/Midway)

ATARI 2600

1 Pixels At War (Atari)
2 Pac-Man (Atari)
3 Kaboom! (Activision)
4 Missile Command (Atari)
5 Adventure (Atari)

ZX81

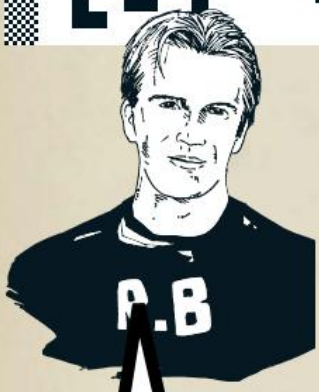
1 3D Monster Maze (JK Greye)
2 Football Manager (Addictive Games)
3 ZX Chess (Artic Games)
4 Galaxians (Artic Games)
5 Dictator (Bug-Byte)

MUSIC

1 A Little Peace (Nicole Wonder)
2 House Of Fun (Madness)
3 Ebony & Ivory (Paul McCartney & Stevie Wonder)
4 Only You (Yazoo)
5 I Won't Let You Down (PhD)

[ZX81] Bug Byte release the fantastic *Mazogs* and a huge hit ensues. It's later converted to the Spectrum and renamed *Maziacs*.

[Atari 2600] Despite a B-movie title, this was a playable *Space Invaders* clone released for the Supercharger add-on.



JUNE 1982 – Intellivision finds its Intellivoice, 2600 gets Supercharged, Spectrum gets recalled, ZX81 Galaxians Scramble for Mazogs, Commodore have rats on their radar whilst Atari have Commodore's Jelly Monsters on theirs.

THE LATEST NEWS FROM JUNE 1982

Despite having been around since 1980, and having almost two million consoles in circulation, Mattel's Intellivision software support was mainly sourced from its own software development group. Things were beginning to change with news that Activision, who primarily supported the Atari 2600, announced they would begin developing for the Intellivision with conversions of the forthcoming *Stampede* and *Pitfall!*, with *River Raid* to follow later in the year.

It was a much-needed injection of optimism for the aging console, particularly with new systems regularly being released. The ColecoVision, due out in August, posed the biggest threat. Maybe with this in mind, Mattel revealed a new peripheral for their machine, the Intellivoice. As the name suggests, it was a voice synthesis module that incorporated speech into games. Speech in games was usually there for decoration and little else, but the Intellivoice promised that speech in their specifically written Intellivoice games would be integral to the game-play.

Sadly for Mattel the module flopped badly. Despite some promising pre-order figures from distributors, Intellivoice software dried up extremely quickly when modules didn't begin to sell. In total only four games were released for the module; the first being *Space Spartans*, a *Star Raiders*-style game, and the last was *Tron: Solar Sailer* based on Disney's movie. Solar Sailer was an absolute stinker of a game.

Another console add-on due out was Starpath Corporation's Supercharger for the Atari 2600. The ingenious peripheral plugged in the cartridge slot of the 2600, bumping the RAM from just 128 bytes to just over 6K, giving developers the opportunity to make bigger games with higher resolution graphics. Atari 2600 games for the Supercharger also differed in that they were on cassette with games loaded, computer-style, via a cable from the expansion module connected to a standard cassette player. Being on cassette also meant that Supercharger games would be approximately half the cost of their cartridge counterparts.

Once again, software support was poor and despite the Supercharger receiving great reviews, sales were hugely disappointing. Only twelve games ever made it to retail, including the pack-in game of *Phaser Patrol*, a very playable *Star Raiders* clone. Two more games were pencilled in for imminent release; *Communist Mutants From Space* and *Dragonstomper*. The politically inspired scaremongering of *Communist Mutants* turned out to be an excellent *Space Invaders* clone, however it was *Dragonstomper* that proved to be the real gem. It was arguably the first proper RPG game released on a console and was a must-play game. That is, if you could actually find a copy.

Sinclair unveiled the Spectrum in April, but they were having problems getting the machines out. Production was halted after finding a fault in the first production run, meaning over 17,000 customer orders had

JUNE 1982 NEWS

14 June saw a ceasefire agreed by British and Argentine forces after a ten-week war for the Falkland Islands, which began on 2 April. 3000 Argentine troops invaded after General Galtieri, the head of Argentina's military, stated they had been left with no other option than military action after months of arguments over the sovereignty of the islands.

The Argentine forces took control of the islands and raised the Argentine flag. Several bloody sea and land-based battles followed as the UK retaliated. Argentine forces finally surrendered on 14 June with hostilities officially ending on 20 June.

to be postponed. A circuit design problem caused a clash between the ULA and the Z80A, resulting in all machines having to be recalled.

The ZX81, under threat from its newer, bigger brother, was seemingly going from strength to strength. Sinclair Research revealed that they were planning to produce 60,000 ZX81 machines a month, with a target of 150,000 a month around the Christmas period.

It was interesting to speculate on whether those numbers would be scaled down dramatically, once the Spectrum started to become widely available with software to back it up. Either way, software houses were just happy to be making games for any sort of Sinclair machine, as proved by several splendid ZX81 arcade releases this month. Artic Computing released *Galaxians*, a very commendable attempt at recreating the arcade game, complete with swooping aliens. Granted, the graphics weren't going to blow your socks off but it played very well indeed.

Bug Byte also had a new game out for the ZX81. *Mazogs* was an arcade adventure maze game that Bug Byte advertised as having the most amazing graphics seen on a ZX81. The graphics were very good but the atmosphere created by being stuck in a maze and having the monstrous *Mazogs* relentlessly pursue you was excellent. It became one of the most popular ZX81 games of the time, and such was its success that it was quickly converted to the Spectrum.

In between making converter boards and joysticks for the ZX81, Mikro-Gen were also producing a range of games for the computer. Their newest offering was a version of *Scramble*. The graphics were functional rather than aesthetically pleasing, but they did the job adequately, and allowed the game-play to shine through.

Commodore VIC-20 owners had a frenetic maze game of their own released this month. *Radar Rat Race* by Commodore was a cartridge game that saw you play a rat running through a maze collecting cheese whilst avoiding cats and other rats. It was unashamedly a clone of Namco's *Rally-X* but was just as playable.

Another cartridge release by Commodore was their take on *Pac-Man*, *Jelly Monsters*. It was an excellent clone, but soon became the focus of Atari and its lawyers. As such, *Jelly Monsters* had a very limited retail lifespan as Atari pushed for it to be removed from sale or incur the wrath of their legal department.

The contentious software release of the month was one of Llamasoft's first offerings. Having just been formed and requiring software to release, Jeff Minter created a simple clone of a game called *City Bomber* for the VIC-20. Bearing in mind that the Falkland Islands conflict was still underway, Yak called his new game *Bomb Buenos Aires*. It played *Rule Britannia* and featured little Argentine flags on the buildings with the advert stating, "Flatten the Argentine capital with your Vulcan bomber." After some bad press and newspaper coverage regarding the game, the Hairy One re-issued the game, renaming it *Blitzkrieg*.

» The ColecoVision was coming soon and gunning for Mattel's Intellivision…

21 June saw the birth of Prince Charles and Lady Diana's first child. The baby boy was born at St Mary's Hospital in London, weighing in at just over 7lbs. He became second in the line to the throne, and it was confirmed that he would be named William Arthur Philip Louis.

The kick-off of the 12th FIFA World Cup in Spain was on 13 June. Both England and Argentina qualified for the second phase group stages luckily avoiding each other. England were eliminated despite not losing a game and conceding only one goal in the whole tournament. The final was eventually between Italy and Germany, who were beaten 3-1.

June also saw the release of Steven Spielberg's E.T. The Extra-Terrestrial. The massively successful film starred Henry Thomas and a young Drew Barrymore. It went on to gross over $792 million.

» To celebrate its thirtieth anniversary, Steven Spielberg's huge hit will be appearing on Blu-Ray.

THIS MONTH IN...

YOUR COMPUTER

Something newer generations missed out on were the upgrades to kit computers. Keyboards for the ZX80/81 were everywhere and *YC* reviewed a whole heap of them, laid out for your delectation like a bunch of East European Spectrum clones.

COMPUTER & VIDEO GAMES

C&VG took a look at the latest arcade offerings for those with an abundance of 10p pieces. Arriving in the UK was the marvellous *Dig Dug* from Atari, the even more marvellous *Robotron 2084* from Williams Electronics and the forgettable *Turpin* by Konami.

WHICH MICRO & SOFTWARE REVIEW

Which Micro analysed what makes a good game. Conclusion? Variety is great. Gah! They also highlighted the growing problem of gaming addicts, which in 1982 numbered just a few thousand (!)

CHARTS

JUNE 1982

ZX81

1. Football Manager (Addictive Games)
2. 3D Monster Maze (J K Greye)
3. Mazogs (Bug Byte)
4. Centipede (DK'Tronics)
5. ZX Zombies (Silversoft)

ACORN ATOM

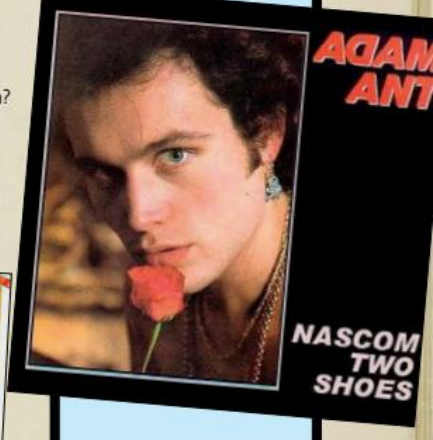
1. Astrobirds (Program Power)
2. Invader Force (Program Power)
3. Star Trek (Bug Byte)
4. Adventure (Program Power)
5. 747 Flight Simulation (Bug Byte)

ATARI 2600

1. Pac-Man (Atari)
2. Asteroids (Atari)
3. Missile Command (Atari)
4. Yar's Revenge (Atari)
5. Kaboom! (Activision)

MUSIC

1. Goody Two Shoes (Adam Ant)
2. I've Never Been To Me (Charlene)
3. Torch (Soft Cell)
4. Hungry Like The Wolf (Duran Duran)
5. House Of Fun (Madness)



Year Released: 1982

Original Price: August 1982 ($595) (USA), December 1982 (£349.99) (UK)

Buy it now for: £10-£15 (eBay)

Associated Magazines: Zzap!64, Commodore User, Commodore Format, Your Commodore

Why the C64 was great… The Commodore 64 was a jack-of-all-trades and a master of many. Success on both sides of the Atlantic meant its software library covered every genre, style and influence possible, with a panache most other machines struggled to equal. Despite Commodore's insistence on pushing it as a business computer with a price to match in the UK, it truly was the gaming platform to own. Even though it looked like a beige breadbin.

commodore 64

WITH THE VIC-20 HAVING ENJOYED A SUCCESSFUL LAUNCH AND SOME NEWLY DESIGNED CHIPS IN THE WINGS, COMMODORE WAS NOW WONDERING WHERE TO GO FROM THERE. MAT ALLEN LOOKS AT HOW ONE DECISION WAS THE GENESIS FOR ARGUABLY THE GREATEST AND BESTSELLING HOME COMPUTER EVER.

Commodore was not immediately looking for a successor to the Vic-20. The launch had been a bigger success than expected, and work on the newly commissioned video and sound chips was reaching a conclusion. The new VIC-II video chip was an improvement on the chip inside the Vic-20 and utilised (or borrowed you might say) features from other leading computers and consoles of the time. The SID sound chip was something new, a three-channel synthesiser that would end up blowing away the competition for years to come.

Both chips had been scheduled for use in arcade or dedicated videogames. However upon their completion in November 1981, Jack Tramiel, boss of Commodore, decided they would instead be used in the company's next home computer. A computer that he wanted to debut at the Las Vegas CES in January 1982. A computer that had yet to be designed! Not to be deterred, the new machine was designed in two days and five prototypes were built by the end of the year.

With the Microsoft BASIC of the Vic20 hastily rewritten for use on the new hardware, the machine was ready for show. Apart from the impressive specifications of the C64, which exceeded anything on the market, no one could understand how Commodore was proposing to sell it for just $595. Their jaws would have been through the floor if they'd known it would be initially manufactured for just $135.

The project and its inherent cost savings probably would not have happened without the acquisition of MOS Technology several years earlier. Not only did they have the expertise and experience, with many other companies using the 6502 CPU, but also the production line facilities enabled chips to be manufactured a lot cheaper and quicker than other companies could achieve. Using the same case and keyboard as the Vic-20 was another factor; aside from halving the cartridge slot size to make way for an internal modulator, the design of both was actually somewhat similar.

The C64 went on sale in August 1982 and was an immediate success. A few issues had been fixed before launch, and a few,

Not so big in Japan

Many people do not realise Commodore had launched the Vic-20 in Japan (as the Vic-1001) several months before it was available in the West in an attempt to acquire market share in the territory. With the imminent launch of the C64, Commodore had a second stab at Japan; however the aim was to sell an entry-level machine at a much cheaper price than the C64 would be in the US. The resultant MAX computer, encased in a membrane keyboard, was hardware-wise very similar to a normal C64. To save costs there was no serial port, no monitor port, virtually no RAM and no internal OS, meaning for all intents and purposes it was a console with a keyboard. Games could only be loaded from cartridge, and the keyboard had little real use unless one of the limited programming modules was acquired. Unsurprisingly the machine hardly sold and today commands a respectable collector value. Most of the games were programmed by HAL Labs (who are now with Nintendo) and are equally collectable. In a shrewd move, Commodore added a MAX mode to the C64 meaning that the cartridges will play fine on it.

APART FROM THE IMPRESSIVE SPECIFICATIONS OF THE C64, WHICH EXCEEDED ANYTHING ON THE MARKET, NO ONE COULD UNDERSTAND JUST HOW COMMODORE WAS PROPOSING TO SELL IT FOR JUST $595

commodore 64

One step beyond

Although technically superseded by the Amiga, the C64 was still going strong by 1990. Keen to capitalise on the machine's consistent popularity, Commodore commissioned an internal project to upgrade the computer for the new decade. The result was the C65, a machine with considerable power inside (such as the new VIC-III chip, VGA capability, greater RAM, and two SID chips for stereo sound), but with the ability to still play roughly three-quarters of the current C64 games.

Anticipation and excitement about the machine grew, as witnessed by copious letter writing to magazines at the time. And then for whatever reason it was cancelled in mid-1991, apparently at the request of then chairman Irving Gould in deference to keeping the C64 alive. The potential that the machine offered would never be realised.

That was not to say no one would get to play with the hardware. When Commodore was liquidated in 1994, many of the machines housed at its Toronto office sneaked out into the general domain and were rapidly grabbed by fans and collectors, though it was soon found many were in various states of completion and revision. Today it remains an interesting curio, one sadly that never came to be.

including the notorious "sparkle" effect, would be dealt with in the months immediately after. Most of these were fixed by the time the second revision (B) motherboard was produced. Revision A machines are today hard to find (estimated less than 0.2% of the 25 odd million production run) and are collectable because of their quirks and bugs.

From the off it was obvious Commodore (aka Tramiel himself) meant business and was going for the throats of the competition, especially Atari. The price of the C64 was down to $395 before Christmas, and was under $200 by 1985, with manufacturing costs cut by two-thirds. By that time the C64 was the home computer to own in the US. This was in contrast to the UK, where Commodore's operation was a little less price conscious. It stayed above the £200 mark for a long time, and peripheral prices were of a similar nature; at one point the disk drive cost more than the machine itself!

JAWS WOULD HAVE BEEN THROUGH THE FLOOR IF THEY'D KNOWN IT WOULD BE INITIALLY MANUFACTURED FOR $135

This does seem strange given the Commodore 64 had far more competition in Europe than in the US, especially from the Spectrum. Whilst the C64 won the hearts of gamers in the Netherlands, Germany and Scandinavia, it was beaten to number one in several other countries including the UK, France and Spain. In the UK the battle was always with the Spectrum. At almost half the price for much of the Eighties, the Spectrum was a cheaper alternative that was also home to many classic games.

Why pick the C64 over the Spectrum? Anecdotal evidence points to its form and function as much as its power (the "real" keyboard being a selling point), with the price tag partly seen as a badge of status. Playground battles would be fought with both sides arguing their case, with levels of tribal loyalty and dedication rarely seen since. Technically the C64 was streets ahead, but there were aspects where the Spectrum was superior. That was mainly isometric adventures, such as those perfected by Ultimate, and anything vector graphic driven. The design of the C64 was not suited to either. That wasn't to say it couldn't be done, as the classic *Mercenary* and the conversion of *Head Over Heels* demonstrate. The C64 made a better stab at anything coming its way from the Spectrum compared to anything going the other way.

However C64 users in the UK didn't just have to rely on homegrown games to satisfy their needs. From early on, they were able to sample the delights of American games, courtesy of companies such as US Gold and Ariolasoft releasing or importing them for sale. Some users, though, would take to importing the games themselves. Quite often this would be the case with some high profile titles, until the companies in question (Infocom, we look at you) decided to send them over here.

For the first couple of years of the C64's life, games from the likes of Epyx, Access, Synapse, Broderbund and Infocom were better than almost anything programmed in Europe. Watching *Impossible Mission*, *Beach-Head*, *Choplifter* or *Lode Runner* being demonstrated was amazing. This was also a time when Electronic Arts published innovative games such as *M.U.L.E.*, *Racing Destruction Set* and *Skyfox* instead of bundles of shovelware. Thankfully programmers this side of the pond got their backsides in gear and started matching the imported efforts.

You have to begin with Jeff Minter, creator of weird addictive programs, who was given a C64 very early on as part of his deal with HES in the US. The three games *Ancipital*, *Revenge Of The Mutant Camels* and *Iridis Alpha* are some of his best work, and would have been hard to achieve on any other platform. He was just the first of many developers, as Tony Crowther (*Loco*, *Blagger*), Geoff Crammond (*Revs*, *The Sentinel*), Archer Maclean (*Dropzone*, *IK*), Jon Hare and Chris Yates (*Parallax*, *Wizball*), and Paul Woakes (*Encounter*, *Mercenary*) would all follow.

Just as can be seen between Western and Japanese game design today, there was a similar dichotomy in games produced here and over there. Different influences, different cultures, different trains of thought. There was also another good reason for why the US produced the majority of the RPGs, strategy games and adventures: the disk drive. By 1984 the datasette had all but been abandoned by users and publishers alike in the US, whereas in the UK it was seen as a cheap method of storage pioneered by the continued success of other computers. There are numerous examples of two versions of a game being written, one example being the movie tie-in *Aliens*. The Electric Dreams UK version is a first-person adventure type affair, whereas the Activision US release is multiload, and portrays the whole film in various stages. In terms of execution, the UK version recreates the terror of the film, whereas the US version is more "big-budget" but far less effective in its execution.

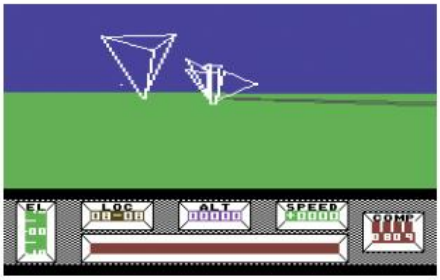
Like it or loathe it, the tape format would define the games written in the UK for the first few years of the C64's life, until the inevitable progress and demand for bigger games forced more multiload antics onto the hapless users. Let's face it, tape wasn't really cut out for that sort of access, but with the introduction of fast loaders into the UK

» C64 owners finally got a taste of Julian Gollop's genius when this masterpiece of strategic turn-based warfare was released for formats other than the Spectrum

» No hardware is ever immune from controversy, and these three games are proof positive the clones can be as good as the real thing: *Cuthbert In The Jungle*, *Katakis*, *The Great Giana Sisters*

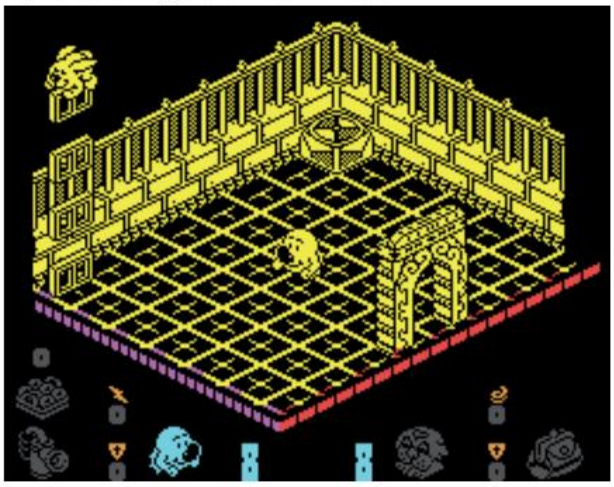
» Using the flexibility of the disk drive, there were some terrific and unique ideas prevalent on the C64, including this trio of releases from Activision: *Alter Ego (top left), LCP (above), Portal (bottom left)*

NO MORE
Intercorp announced the elimination through hybridoma antibody manipulation of the last viral disease January 4, 2042. Mutagenic characteristics of viral DNA irrelevant to human pathogenesis remain outside the scope of disease-oriented research. Medical AI maintains full-health status quo as of January 1 2073. Only new genetic diseases remain as worldwide health risks.
FOCUS
HELP

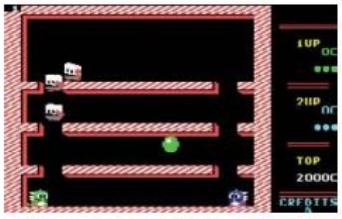


» Paul Woakes needs to be tracked down to explain just how he managed to fit a whole world of wonder into 64K of RAM. Who says the C64 can't do vectors?

» A Spectrum conversion you all cry? For sure, but the C64 showed it was equal to the task of running the best software its rival had to offer



» All the Bs for arcade conversions, this set of three were some of the best realised on the limited, by comparison, hardware: Buggy Boy, Bionic Commando, *Bubble Bobble*



(another pioneering moment from Jeff Minter), things became a little more bearable.

Even at the peak of its popularity, it has been said that only around 10% of all C64 owners had a disk drive. Which by the powers of deduction means 90% were stuck with tape loading only. As mentioned earlier, this was mainly down to Commodore's high pricing policy in the UK. Hence to accommodate this fact, it is no surprise that a lot of games were designed for single load only, squeezing as much as possible into that 64K (or less). The benefit to those who had access to both formats is obvious; the C64 repeatedly delivered quality games in all genres and interests and wasn't confined to a subset of possibilities.

Those Commodore 64 owners out there are already no doubt counting on their fingers all the games they loved and separating them into single and multi load. Unless you had a disk drive fairly early on, it would be expected that the single loaders are going to win out here. Anyone who played *Turbo Outrun* on tape will know how excruciating it could be (having said that, before fast loaders appeared, loading from disk was almost as bad). Sometimes it was done right; having the next level load during sequences in *Dragon's Lair 2* or *Hawkeye* for example, or playing a small mini-game such as *Invaders* or *Painter*. It also gave rise to the "loader tune" to occupy gamers as they patiently waited for their latest epic to dribble into memory. Music for the C64 would turn out to be probably the defining point of its lifespan.

Aside from tapes and disks, the C64 could also use cartridges. Despite the number of games available being tiny compared to the overall catalogue (just some 300 odd releases), there were some great titles to be had, though many of them were only available on that format, and only available in the US. US Gold did some balancing by releasing some of the Sega titles in the UK, Atarisoft published a few of their own in Europe, and HES released games on tape, but the majority stayed behind.

Most of Commodore's own efforts can be ignored, although *International Soccer* is impossible to avoid, and *Wizard Of Wor* is one of the best conversions available for the C64. Other titles people should look to grab from abroad include *Gyruss* by Parker Bros, *Diamond Mine* by Roklan, *Moondust* by Creative, *Maze Master* by HES and *Jumpman Junior* by Epyx. Look to Australia and cartridge versions of classics including *Leaderboard* and *Ghostbusters* can be found, as Home Entertainment Suppliers had a licence to produce them in the late Eighties.

EVEN AT THE PEAK OF ITS POPULARITY, IT HAS BEEN SAID THAT ONLY AROUND 10% OF ALL C64 OWNERS HAD A DISK DRIVE

Not all the important cartridges were games however. Anyone with a disk drive needed a utility cartridge to go with it, and examples such as Datel's Action Replay, the Final Cartridge, the Expert and Super Snapshot were all good sellers. They not only performed quick copying of disks, but enabled pokes to be entered, had built-in fast loaders, allowed easy use of disk commands and more. In today's disk heavy environment, they are an even more vital necessity.

The other essential weapon was the review magazine. After the success of Crash for

» Before *Micro Machines* came *Slicks*, a very similar game, and one of the best overhead racers available for the C64.

SID IS UNIQUE. THERE WAS NOTHING LIKE IT BEFORE AND THERE HAS BEEN NOTHING LIKE IT SINCE

» **Above:** RPG fans were well catered for, with releases from Interplay, SSI, Origin and Electronic Arts, and more recently the massive 14 disk home-brew epic *Newcomer*

Spectrum owners, Newsfield launched Zzap!64 in April 1985, and for the next three or so years, it was the best thing on the planet – if you were a C64 owner that was. With the attack of pointy hair and pointed words from the twin terrors of Gary Penn and Julian Rignall, gamers felt safe that if they said something was good, then it was going to be good.

The magazine lost its way after that point due to various changes, but was always a good read even if it had lost some of its magic. Coming late into the show was Commodore Format, which didn't launch until the end of 1990 when the C64GS was released. Zzap!64 had never really had a proper rival until then, so late in the C64's life, there was suddenly some real competitive spirit. Format lasted until 1995, which was some going for a magazine with an 8-bit theme.

Despite the effort of magazines to keep gamers on the straight and narrow, some people still bought duff software. But there was method to the madness; it was all to do with the music. It may seem strange, but some games (*Comic Bakery, Miami Vice, Rambo* and *Knucklebusters*) despite being less than great, still sold rather well due to exceptional SID tracks. Music more than anything else elevated the C64 above its contemporaries and made playing games more than just bleeps and bloops. Where else has one chip inspired countless remixes, paid-for music albums, samples in commercial records, organised concerts and a professional mixing/composing station?

SID is unique. There was nothing like it before and there has been nothing like it since. There is a distinctive form to its sound, and those musicians capable of extracting the most from it were almost heralded as gods at the time. Be it the frantic fast paced nature of *Monty On The Run* (Rob Hubbard), the psychedelic trippy *Parallax* (Martin Galway), the oriental themes of the *Last Ninja* (Ben Daglish and Anthony Lees), the industrial drum based rhythms from Matt Gray or Steve Rowlands' bouncy house-like tracks, there was something for all. Melody was key; many classic SID tracks are instantly hummable and maddeningly catchy.

Samples, in the form of instruments or voices, as part of the music became popular after Martin Galway and Chris Hülsbeck started using them in compositions in 1987. When utilised homogeneously, in such pieces as *Savage* and *Turbo Outrun* by the Maniacs of Noise or *Combat School* by Galway, they really added something to the end production. Unfortunately Commodore fixed the bug in the 6581 SID chip that allowed samples to be played for the 8580 revision, meaning they became very quiet. Fortunately there is a solution available to fix this "problem".

With the graphics, music and games making the C64 a global success, it may not be surprising that all of Commodore's 8-bit hardware that followed never came anywhere close. You could say that was partly due to its popularity – people saw no need to change, apart from going onwards to the Amiga or Atari ST. For example, the C16 and Plus 4 were nice machines but only ever occupied a niche market space that disappeared once the price of the C64 came down.

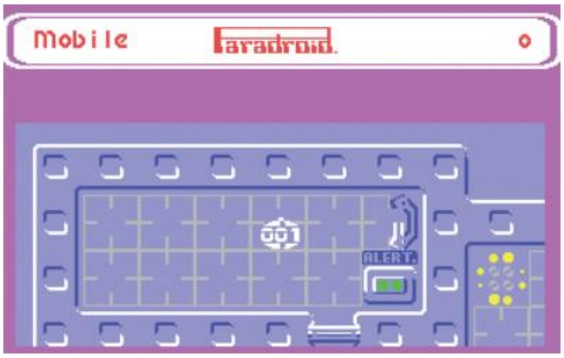
Whereas the C128 on paper looked an interesting prospect, the idea of a better equipped C64 with twice the memory and processor speed could have been seized upon by developers but never was. Very little C128-only software was written as users voted with their wallets and stuck with the C64 instead. Early on in the C64's life, Commodore marketed the SX64, an alleged portable version (or not, if you've ever tried carrying one about) of the hardware with a built-in monitor and disk drive. However with an initial price tag in the US of just under $1,000 (and a similar value here), it was never destined to sell in large amounts. Having said that, it isn't difficult to find them being sold privately today in the US or Germany.

Commodore's biggest error was trying to compete for the space occupied by Sega and Nintendo in the console market. It is similar to the mistake committed by Amstrad with the GX4000. The idea of attracting those users across was sound, but in true Commodore fashion, it got the execution horribly wrong. The main problem was the price of the new C64GS (Games System) unit: at £100 it was only just less than a normal C64 bundle. The joystick included with the console was horrible, and with the lack of keyboard, many of the older cartridges could not be played properly.

» The C64 was still home to new development talent into the Nineties as witnessed by the Rowlands brothers' games, which always had the highest production values possible

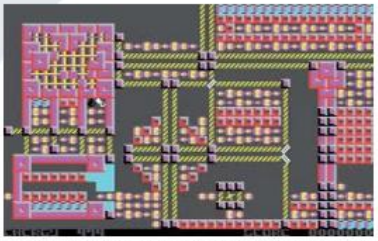
» Sensible Software was known for producing unsensible games, including the two that kick-started its success: *Parallax* and *Wizball*

» Jeff Minter was behind the C64 after progressing from the Vic20, and all of his games for the machine have a unique quirkiness about them



» Indescribably brilliant, and a concept seldom used since. Control the influence device to destroy or takeover all of the rogue droids aboard eight ships

» Just about every C64 owner will have played *International Soccer* at some point, but there were other great cartridges to get including the conversion of *Wizard Of Wor* and Ocean's range for the 64GS



» Just because it was budget did not mean it was bad. There were a number of undiscovered gems including *Spore* and *Warhawk*, plus the best-value game ever, *Thrust*

It did kick off the interest in cartridge based games again, albeit briefly, and there were some excellent new titles available for a slightly higher than expected price tag – the majority coming from Ocean. There was also a lot of confusion at the time as many people thought the new cartridges would not work with a normal C64; as a remedy many games had stickers positioned prominently on the front, pointing out they could be used with any machine. In the end roughly a third of the 100,000 units manufactured were sold, with the rest being broken down for use in C64C models instead.

The C64 had already gotten an update in its own right in 1987 with the introduction of a new slim-line design to match the Amiga, and a slight name change to the C64C. The internals of the machine were redesigned and decreased chip wise along with the aforementioned SID revision, although some early C64C models do have the 6581 inside. It was still business as usual for sales, and the C64 kept selling and kept being popular despite the release of vastly more powerful hardware and consoles experiencing a resurgence. It was also a reason why the C65 project was cancelled (see boxout).

Where the C64GS had failed in attracting the next generation, the ordinary C64 succeeded. With the turn of the decade, interest in the ageing technology would be expected to decrease, and yet a new wave of younger users was just taking their first steps. On their heels was a new set of programming talent looking to keep the machine alive, and maybe show a few tricks that established teams would utilise themselves. If games such as *Turrican*, *Turbocharge*, *Mayhem In Monsterland*, *Battle Command* and *Elvira 2* had been released earlier in the machine's lifespan, who knows where development could have led. What is certain is that constant innovation and experimentation with the hardware made it do things the designers never conceived as being possible.

In 1993 Commodore announced it was finally halting production of new C64 units. Eleven years is a long time in today's terms for manufacturing essentially the same piece of hardware. It even managed to outlive Commodore's own demise the following year, as commercial software was still available to buy into 1995. From then on, it was the era of home-brew and fans supporting the machine.

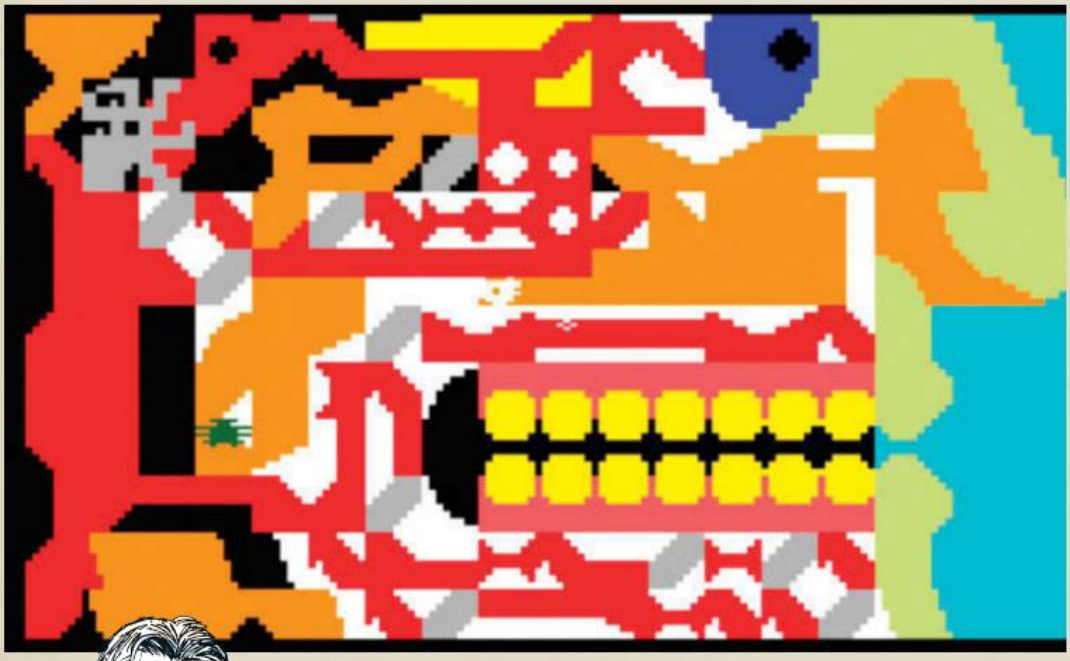
Home-brew is merely a technical term for it, as unlike the Atari 2600 or NES, ordinary users were programming their own games and selling them (and many did) since the launch of the C64. Without the support of retail shops, it meant distribution went back to being word-of-mouth, mail order and private advertisements. In the last ten years, thanks must go to Russ Michaels (Electric Boys Software) and Jon Wells for pioneering the process and today there are several groups releasing "for money" software including Protovision and Cronosoft, along with many others doing it for free.

CONSTANT INNOVATION AND EXPERIMENTATION WITH THE HARDWARE MADE IT DO THINGS THE DESIGNERS NEVER CONCEIVED AS BEING POSSIBLE

One thing is also certain: a disk drive is an essential part of owning a C64 today and is now highly affordable. With the efforts of groups such as Gamebase64 and individuals such as Peter Rittwage to document and preserve all games ever released, and cables available from various outlets, programs can be transferred from PC to real floppies easily to play on a proper C64. Many new game releases are disk only. Like many other 8-bit machines, the future is still active and bright for hardware that is rapidly approaching its twenty-fifth birthday.

I want my DTV

The origins of the DTV (Direct-To-TV) unit lie with the C-One project, created and designed by Jeri Ellsworth. Conceived as a way to emulate the C64 as closely as possible through software, it eventually progressed into a platform capable of handling many other formats due to the unique nature of its powerful design. Although the C-One was aimed at a developers' market, it did not go unnoticed. Mammoth Toys signed a deal with Ellsworth to produce a computer-on-a-chip version for use in a self-contained games joystick, similar to many already sold by companies such as Jakk's Pacific. With the project completed in a few months, it went on sale just before Christmas 2004 and sold more than a quarter of a million units.
The later PAL version has several improvements and a more refined games line-up, making it the preferential choice of purchase. Not only are there several Easter eggs to find, the unit is also fairly easy to hack and alter due to its C-One origins, meaning amongst other things, new software can be loaded into the unit and extra joystick ports added for two-player games. The C64 lives on, though maybe not quite in the format people expected!



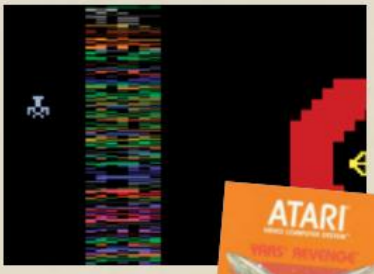
CHARTS

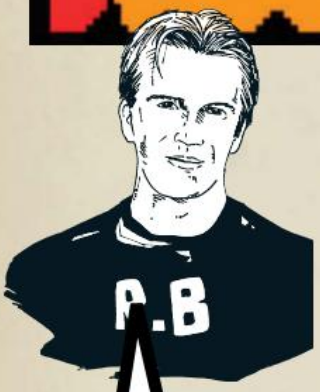
JULY 1982

ARCADE COIN-OPS

1. Pac-Man (Namco/Midway)
2. Tempest (Atari)
3. Defender (Williams)
4. Centipede (Atari)
5. Battle Zone (Atari)

» [Atari 2600] *Yars' Revenge* was an original, challenging game. It also made a bucketload of money for Atari.





JULY 1982 – Binatone has computer hopes, Sinclair wants to get some Spectrums out, Atari offers free comics, the Yars want Revenge, Magnavox goes European and a microsurgeon cures your Intellivision ills. Dr Burton prescribes a shot of retro gaming

THE LATEST NEWS FROM JULY 1982

Binatone, maker of umpteen TV game variants – all consisting of different forms of *Pong* – announced a venture into the home computing market with its proposed new computer, which it hoped to be ready for December. The 16K colour computer would be manufactured in Asia, imported over to the UK and sold for £49.95.

There wouldn't be a big mark-up from the manufacturing price, as Binatone intended to keep it as cheap as it could and make its money by shifting a large volume of units. It was estimating sales of around 300,000, and planning to sell via Woolworths and Rumbelows. Binatone also hoped its new machine would be a challenger to the new Sinclair Spectrum. It all sounded very promising except for one minor detail – it never got further than the planning stages.

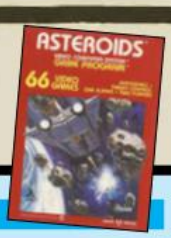
At the same time, the Spectrum was suffering from technical problems; a design fault limited the number of Spectrums sent out. The entire production run stopped while Sinclair waited on new circuit boards to be manufactured, and had to push back delivery for most orders to late August. A few machines were getting out but these were being hand-modified at the production plant. It looked like that 28-day delivery date that Sinclair imposed on itself might get it into trouble again with Trading Standards.

There was better news for Sinclair with rising ZX81 sales in America. Having decided to push the machine in the US, Sinclair tested the water by making the machine available only via mail order, and through a special deal with American Express and holders of its credit cards. Sinclair received over 25,000 orders in the first half of June through this offer.

Similarly, Atari's marketing department had been putting their thinking caps on, and had come up with a promotion they thought would be a sure-fire winner: free comics! The idea was that gamers would buy the latest Atari 2600 game to obtain the next action-packed instalment and find out what happened to Atari's very own band of heroes, Atari Force.

The first of a five issue miniseries featuring Atari Force, published by DC Comics, would be given away with *Defender*, the second issue with *Berzerk*, and then *Star Raiders*, *Phoenix* and *Galaxian*. How much of an impact this marketing ploy made to sales isn't clear, as the titles the comics were included with were all high-profile new releases and were presumably going to sell well anyway.

» [Intellivision] The first of its kind, the splendid *Utopia* was part god sim, part real-time simulation.



ZX81	ATARI 2600	MUSIC
1 Mazogs (Bug-Byte)	1 Asteroids (Atari)	1 Fame (Irene Cara)
2 Football Manager (Addictive Games)	2 Missile Command (Atari)	2 Abracadabra (Steve Miller Band)
3 Trader (Pixel Productions)	3 Adventure (Atari)	3 Happy Talk (Captain Sensible)
4 QS Defender (Quicksilva)	4 Kaboom! (Activision)	4 Da Da Da (Trio)
5 3D Monster Maze (J K Greye)	5 Stampede (Activision)	5 Inside Out (Odyssey)

JULY 1982 NEWS

9 July saw Michael Fagan, an unemployed 31-year-old, break into Buckingham Palace. Managing to evade security and alarm systems he located the Queen's bedroom. He then spent ten minutes talking to her, before she managed to summon a footman who restrained Fagan until the police arrived.

On 2 July Larry Walters made use of his garden chair in an impressively bizarre way. His plan was to attach a few helium-filled weather balloons to the chair and float about 30 feet above his garden. He bought 45 large balloons, filled them with helium and attached them to his chair. Armed with a pellet gun to pop the balloons for a controlled descent he began his flight. Friends helped him become airborne and his anchoring rope was cut. The chair began to rapidly gain height and rose to 15,000 feet.

After 45 minutes in the air he nervously shot at some of the balloons and began to descend. He hit power lines, causing a blackout, but Walters managed to get to the ground unhurt and was promptly arrested. Asked why he did it, he replied, "A man just can't sit around."

» The best film in the *Star Trek* series.

The UK premiere of *Star Trek II: The Wrath Of Khan* opened on 16 July, starring William Shatner as Admiral Kirk and Ricardo Montalbán as Khan Noonien Singh, a genetically engineered warrior. The Genesis Project, the death of Spock and that wormy thing that went in Chekov's lughole made for arguably the best *Star Trek* movie of them all.

Utopia for the Intellivision finally made it to the UK, almost a year after its US release. Created by Don Daglow for Mattel, *Utopia* was one of the first games that could be classed as both a god game and real-time simulation. A two-player game which saw each player take control of an island, players could construct new buildings by spending gold, fund rebel activity on an opponent's island, and build fishing boats for the income required to feed your growing populace. It was a very impressive and involving game that really stood out on the Intellivision. Mattel later released a version for its Aquarius home computer.

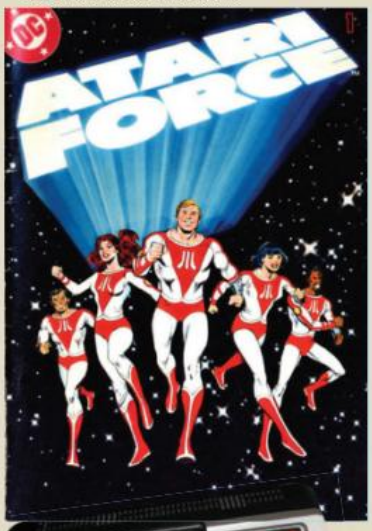
Intellivision owners were treated well this month with another unique game: Microsurgeon, published by Imagic. The aim of the game was to manoeuvre a tiny ship around the body and attempt to cure a patient. Some were modest ailments while some were distinctly nasty. Players set the level of severity, ranging from being fair to critical, and travelled through through the bloodstream dispensing medicine and performing micro-operations.

It had very bright, distinctive, chunky graphics and, despite the subject matter, provided a pleasantly quirky and original distraction from the tidal waves of *Space Invaders* and *Pac-Man* clones swamping the marketplace. Sadly, it was initially restricted to the Intellivision, although conversions to PC and Texas Instruments' TI99/4A home computer followed later.

There was more console gaming happiness with the UK release of an Atari 2600 future classic, *Yars' Revenge*. Created by Howard Scott Warshaw, the man behind two other big-name 2600 titles – *Raiders Of The Lost Ark* and *E.T.: The Extra Terrestrial* – this was to be a game that would become a firm favourite with 2600 owners.

Despite looking like a relatively simple game, you soon found out that *Yars' Revenge* was deceptively testing, bordering on downright infuriatingly difficult. You played a giant space bug that had to fire through a shield protecting your enemy, the Qotile. You then had to destroy the enemy with a great big Zorlon cannon. This all occured while you tried to dodge

» The five part mini-series comic *Atari Force* was given away with selected new Atari 2600 releases.



» The Magnavox Odyssey II travelled across the Atlantic, becoming a Philips Videopac G7000 in the process.

the homing missiles sent out to kill you – though they could be avoided by hiding in the psychedelically-coloured neutral zone placed down the centre of the screen. *Yars' Revenge* sold tremendously well – and rightly so – even though it started out in life as a failed port of arcade game *Star Castle*.

Finally, it had been released in America nearly four years before, but Magnavox confirmed it would release its popular Magnavox Odyssey 2 console in Europe. However, rather than using the unfamiliar Magnavox name, it was decided that Philips, the parent company, would use its name instead. So with a target of Christmas 1982 put in place, the Philips Videopac G7000 was coming to Europe.

THIS MONTH IN... YOUR COMPUTER

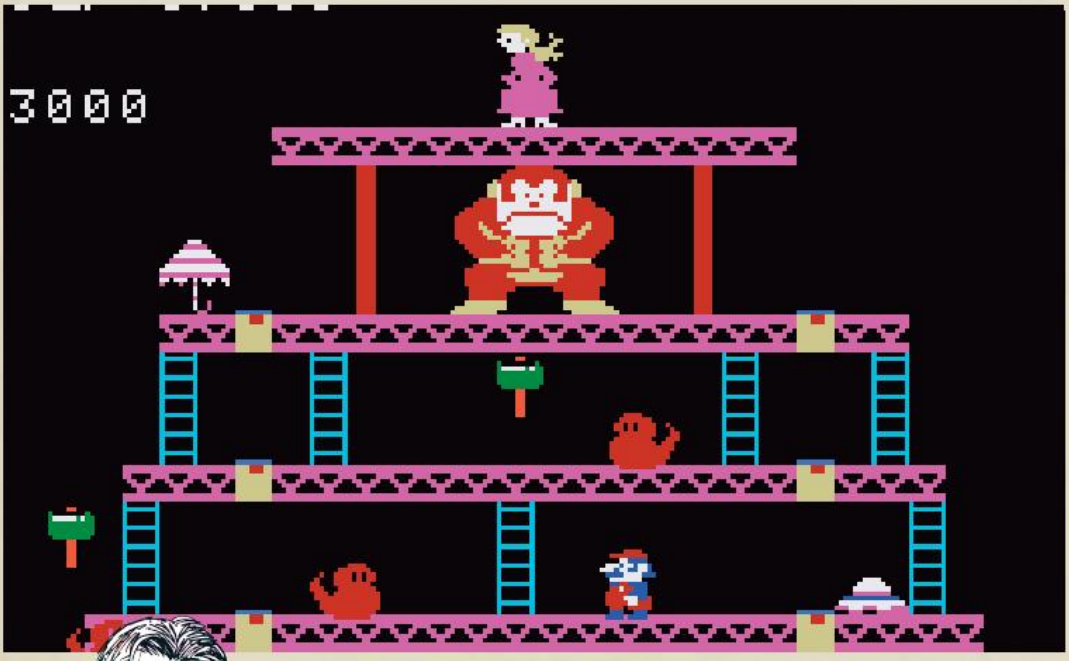
YC interviewed former Sinclair designer Richard Altwasser about designing the ZX Spectrum. "People who work for Sinclair don't have many hobbies," he said, as well as "The VIC-20 is a second rate computer." He left Sinclair to create the Jupiter Ace.

SINCLAIR USER

Another Richard Altwasser interview divulged an interesting titbit of info. When asked about the name of Sinclair's new micro, he revealed Jupiter was one of the rejected suggestions for the Spectrum that they liked but didn't use.

ATARI AGE

Atari didn't just make consoles and games, it also offered gift ideas. How about Atari earrings available in 24K electroplated gold? Or a head and wrist sweatband set? Or an Atari kite or Atari jacket or Atari Frisbee? You get the picture.



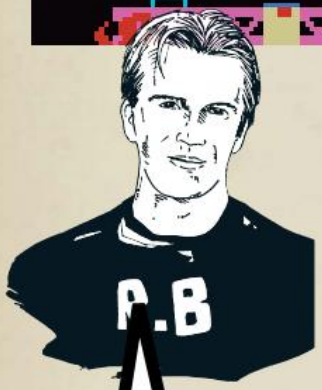
CHARTS

AUGUST 1982

ACORN ATOM

1. Cyclon Attack (A'n'F Software)
2. Snapper (Acornsoft)
3. 747 Flight Simulation (Bug Byte)
4. Polecat (A'n'F Software)
5. Adventure (Program Power)

»[Atari 2600] If you ever fancy a few thousand copies of *E.T.*, take a trip to New Mexico and bring a big shovel…



AUGUST 1982 – ColecoVision and C64 arrive, Atari gets E.T., Activision goes Berzerk, the Dragon enters, Level 9 goes caving, there's a Space Invaders deluge and Tron hits the arcades. Richard Burton is off for a game of Paranoids…

THE LATEST NEWS FROM AUGUST 1982

This month, Commodore finally released its latest home computer, the Commodore 64. It had first been introduced to the frothing masses at the Winter Consumer Electronics Show held in Las Vegas in January 1982. Everyone who saw it was impressed at what it could do and, such was the clamour for this new machine, mass production began in earnest a few months later, after some last minute modifications. It went on sale on 9 August at the very competitive price mark of $595.

More hardware arrived a few days later when Coleco unveiled its new console with the official launch of the ColecoVision in America. Europe saw the machine two months later when CBS Electronics began distributing it in Europe.

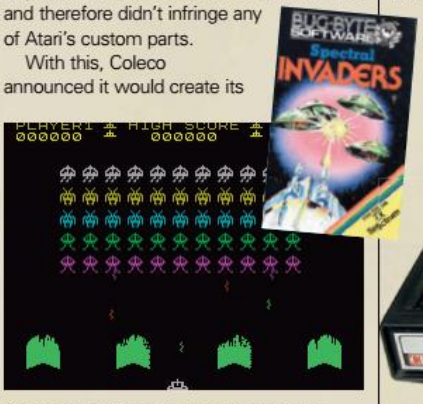
The ColecoVision console hit the streets boasting arcade quality graphics. A wave of twelve launch games were announced including *Lady Bug*, *Zaxxon* and the superbly playable *Donkey Kong*, which was the pack-in game for the console.

Donkey Kong was arguably responsible for selling many ColecoVision consoles based on the accuracy and playability of the arcade conversion. Estimates suggest that in the five months running up to Christmas, the ColecoVision shifted 500,000 units.

A clever move by Coleco was to also offer the first in a line of Expansion Modules. These would enable games for the hugely popular and market-leading Atari 2600 console to be played on the ColecoVision, instantly giving it a huge software base.

Atari objected profusely to the Expansion Modules, naturally claiming it infringed upon its patents, and the stench of legal action began to fill the air. However, this action backfired spectacularly when the courts found in favour of Coleco, as all the components in the creation of the Expansion Module were off-the-shelf items and therefore didn't infringe any of Atari's custom parts.

With this, Coleco announced it would create its own Atari 2600-compatible console and, within a couple of months, it had produced the Coleco Gemini. It goes without saying that Atari wasn't best pleased…



»[Spectrum] It's 1982, and every other computer game released is a *Space Invaders* clone (probably).

Atari did have some news of its own though. It was extremely pleased to announce that a deal had been struck late in July with Steven Spielberg and Universal Pictures for the rights to produce a videogame based on the massively successful movie, *E.T.: The Extra-Terrestrial*.

Having reportedly paid $25 million for the license, Atari revealed that Howard Scott Warshaw, who had designed the Atari 2600 hit *Yars' Revenge*, would be developing the game. What Atari didn't mention was that he had been given a ridiculously tight deadline to come up with the finished product – just five

»[ColecoVision] Coleco's new console offered some terrific arcade ports – including *Donkey Kong* as a pack-in game.

ATARI ST	ZX81	MUSIC
1 Pac-Man (Atari)	1 Football Manager (Addictive Games)	1 Come On Eileen (Dexy's Midnight Runners & The Emerald Express)
2 Yars' Revenge (Atari)	2 Sorcerer's Castle (Mikro-Gen)	2 Eye Of The Tiger – (Survivor)
3 Starmaster (Activision)	3 QS Invaders (Quicksilva)	3 What – (Soft Cell)
4 Barnstorming (Activision)	4 Gulp (Campbell Systems)	4 Can't Take My Eyes Off You (Boystown Gang)
5 Kaboom! (Activision)	5 Mazogs (Bug Byte)	5 Save A Prayer (Duran Duran)

AUGUST 1982 NEWS

19 August saw the Soviet Soyuz T-7 launch, the third mission to the new Salyut 7 space station. It was notable for being the mission that made Svetlana Savitskaya only the second woman in space since fellow Russian Valentina Tereshkova flew the Vostok 6 in 1963.

26 August saw the UK premiere of John Carpenter's *The Thing* starring Kurt Russell, which tells the story of a parasitic alien lifeform which infiltrates an Antarctic research post and infects anything with a pulse.

»A glass and a thin piece of card ain't going to get rid of this bug…

The researchers become more paranoid not knowing who is infected and who to trust. Meanwhile, the alien has infected a dog, leading to one of cinema's most infamous monster-morphing moments when the infected dog's face peels back and it sprouts spider-esque legs – all thanks to the special effects wizardry of Stan Winston. No CGI here, folks…

13 August saw more movie blood with the return of Jason Voorhees, the insane and deformed serial killer who stalks Camp Crystal Lake, in *Friday The 13th Part III*. Despite being just another slashfest, it did have two points of interest. It was the first movie since 1954 that Paramount Pictures had filmed in 3D, so cue lots of pointy things coming towards the audience at regular intervals. Meanwhile, it was also the first time that Jason would wear his now-trademark hockey mask, which has since become an integral part of the franchise. That's three films down, eight sequels and a reboot to go…

weeks. This would give ample time for the Atari marketing machine to do its thing in the run-up to Christmas Needless to say, we would hear a lot more about *E.T.*...

Activision released *Berzerk* this month for the 2600. The hunt-or-be-hunted maze game was a great attempt at converting the arcade coin-op. No, there was no robot speech synthesis in the 2600 version, but it was nonetheless very playable, and having to dodge Evil Otto if you dawdled too much guaranteed a jump in your pulse rate.

New out this month from Brøderbund was *Choplifter* for the Apple II: fly the helicopter, save the hostages and get back home in time for tea and crumpets (sort of). Several conversions for countless other home micros followed over the years, including a coin-op conversion by Sega, one of the few instances of an arcade game originating on a home computer.

Dragon Data released its first home micro, the Dragon 32, in mid-August, priced at £199. The new 32K, 8-bit machine was so similar to the American TRS-80 Colour Computer that a small proportion of TRS-80 software perfectly ran on it.

Dragon Data also stated its intention to release a more powerful Dragon 64, although it would be well into 1983 before that saw retail availability.

With the new Dragon 32 appearing and the existing Vic-20 and Spectrum all vying for consumer interest, it was reported that rival micros the Atari 400 and Texas TI99/4A were to have their prices slashed from £299 to £199 as competition started to hot up, such was the variety of computers that now offered both colour and sound. The soon-to-be-introduced Jupiter Ace, NewBrain and Colour Genie would mix it up even more…

Level 9 Computing announced that its first adventure using its new custom-written interpretation language called A-Code – a highly efficient way of producing cross-platform versions of the same game – was ready for release. It was *Colossal Adventure* for the Nascom 1 and 2, an extended conversion of Will Crowther's Seventies classic *Colossal Cave Adventure*.

»Dragon 32 was created in the wilds of Port Talbot, Wales.

»[Apple II] *Choplifter* was a rarity; a home computer game ported to the arcades for a coin-op version, released three years later.

With every software house jumping on the *Space Invaders* bandwagon by recreating its own interpretation, Quicksilva released *Space Intruders*, its first game for the Spectrum. Although lacking colour, it proved to be a hit. Meanwhile, Bug Byte released *Spectral Invaders* for the Spectrum 16K. It was more colourful and also played very nicely.

Despite the closeness of their release, both games were by far the best versions of *Space Invaders* on the Spectrum at that time, and sold extremely well.

Bug Byte had also just released its own version of Atari's *Pac-Man* – cunningly titled *Vic-Men* – for the Commodore Vic-20. It looked and played the part (so much that Atari began taking an active interest in it…).

Bally Midway released its newest arcade coin-op game, *Tron*, into arcades across the land, to coincide with the cinematic release of the film the following month. *Tron* featured four sub-games and introduced us to Light Cycles. It's all in the wrists…

THIS MONTH IN... COMPUTER & VIDEO GAMES

C&VG highlighted the release of *Zaxxon* into the arcades. Sega's game saw you fly your shuttle along an isometric landscape while blasting enemies and grounded craft. Use of an altimeter was also crucial to survive.

SINCLAIR USER

Issue 5 of *Sinclair User* ran an interview with Rick Dickinson, who designed the distinctive look of the ZX81 and Spectrum. According to Rick, the ZX81 took six months to design. The Spectrum proved to be quicker to design but more complicated.

YOUR COMPUTER

A retrospective interview with Tony Baden of Bug Byte featured. Its first run of forty tapes quickly sold, with Baden estimating it had sold over 500,000 games. Baden also commented that he once wrote eight games in one day for the ZX81.

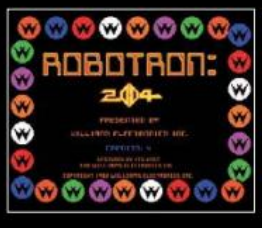
THE MAKING OF...

12400

ROBOTRON: 2084

A favourite of gamers old and young and one of the most relentless and frenetic shoot-'em-ups ever devised, Robotron: 2084 is a first-rate creation. Craig Grannell talks to designer Eugene Jarvis about his game's path from Berzerk! wannabe to timeless classic, and the epiphany that resulted in a revolutionary control system that's still in use today

IN THE KNOW



- **PUBLISHERS:** WILLIAMS ELECTRONICS
- **DEVELOPER:** EUGENE JARVIS FOR WILLIAMS ELECTRONICS
- **RELEASED:** 1982
- **PLATFORMS:** ARCADE (LATER CONVERTED TO VARIOUS HOME SYSTEMS)
- **GENRE:** SHOOT-'EM-UP
- **EXPECT TO PAY:** £750+ FOR AN ORIGINAL CABINET

It's the early Eighties and *Defender* has been released to much acclaim. Designer Eugene Jarvis, who initially based his iconic horizontal blaster on *Space Invaders* and *Asteroids*, is playing another early title when inspiration strikes for perhaps his most famous creation – *Robotron: 2084*. "*Berzerk!* was amazing, but I got frustrated playing it, because you had to move towards enemies to shoot them. As they closed in it was hard to kill them without them killing you," remembers Eugene. "One day, I realised if you hold the fire button down, your player remains stationary, but you can still move the joystick to fire bullets."

For Eugene, this was a 'Eureka!' moment. "A lightbulb went off in my head – 'the joystick fires the bullets'. I then thought why not have two joysticks – one to move and one to fire? It was so obvious – such a natural control method!" In one fell swoop, Eugene devised a breakthrough gaming mechanic for his new title, and one that perseveres to this day – although in typically modest fashion, he notes that if he hadn't thought of it, "someone else would have".

The control method was duly worked into a game Eugene had already started, which, like *Berzerk!*, was based on *Robots*. "Initially, you had to get robots to collide and destroy each other, but that was too passive – after playing *Defender* and *Stargate* for two years, you gotta kill things," he laughs. "So that's when the 'shooting joystick' came into play."

By utilising a dual-joystick approach, Eugene says his game became more life-like, enabling you to retreat from a foe while shooting at it, adding freedom in terms of firing. However, there was little freedom in the environment, with *Robotron* confining you to a single screen – a retro decision even in 1982, especially following *Defender*'s scrolling universe. "*Robotron*'s beauty is in its confinement and intensity," argues Eugene, likening it to *Space Invaders*, but with enemies approaching from all angles. "When we first tried this, it really grabbed our attention – there were no safe areas, because foes were coming at you from everywhere."

With such an escalation of warfare, other components were needed. First, a stronger enemy required a stronger player, to ensure balance of power, hence the plentiful projectiles the player's weapon spews. Secondly, a rescue theme was introduced,

» Eugene was keen to add a story to *Robotron*. You must save the last human family from robots.

» [GBA] The GBA's lack of buttons means its conversion is a case of 'pick up and play – and then put down again'. A DS version, on the other hand...

"THEY'RE ROBOTRON'S EVIL OTTO. IT'S COOL HAVING AN INDESTRUCTIBLE ENEMY – THEY ADD INTEREST TO THE GAME, BECAUSE YOU HAVE TO GO AROUND THEM" EUGENE JARVIS ON THE GREEN HULKS

transplanted from *Defender*. "This was added so the game wasn't just about killing everything," says Eugene. "We got to tell a story, with different characters, and used rescuing clones of the last human family for progressive scoring." He explains that once you're up to 5,000 points, you become motivated to try for more, since 25,000 points provides an extra life. "The character of the game changes – you become almost suicidal in order to grab humans!"

Further gameplay richness is provided by *Robotron*'s cast, which grew as the game was developed. First up were static, deadly Electrodes and simple-minded GRUNTs (Ground Roving Unit Network Terminators), a foe that closely paid homage to the inspirational *Robots*. "GRUNTs were designed to make the player feel surrounded and trapped from all sides," says Eugene, adding that GRUNTs are simply programmed to take the shortest path to you – something that rapidly amplified the game's intensity. "I'd been working on the game for a few days when we got rudimentary GRUNTs going, and we said, let's play with ten. That was kinda fun, so how about 50? How about 100? It was killer, and the funny thing was that with the dual-joystick thing, we ended up blowing a path through GRUNTs when surrounded, returning to *Berzerk!*-style shooting in the direction you're moving!"

In a sense, the Electrodes and GRUNTs shifted *Robotron* towards its main source of inspiration in another way, too. Although *Robotron*'s single screens lack walls, myriad enemies almost create a maze, albeit one that continually shifts; enemies appear randomly on screen at the start of each level, and the player has two seconds to take in the playfield and decide where to go. Another interesting element, according to Eugene, is the GRUNTs' speed. "They go towards you at an ever-accelerating pace, but are never faster than you. This gives you a chance, but GRUNTs cut corners and always close in on you."

According to Eugene, the next enemy designed, indestructible green Hulks that kill humans they collide with, were also inspired by *Berzerk!*. "They're *Robotron*'s Evil Otto. It's cool having an indestructible enemy – they add interest to the game, because you have to go around them, although we helped the player out a bit by enabling you to fire at Hulks to temporarily keep them at bay."

At this point, no enemies fired projectiles of their own, and so the levitating Enforcer was devised. "We liked the idea of a levitating robot, and it was also cheaper than animating something walking," laughs Eugene. The Enforcer also continued a thread from *Defender*, providing the illusion of enemy intelligence via projective algorithms. "The simplest thing you can do is calculate the angle from the enemy to the player and shoot directly, but if the player's in motion, the enemy always

DEVELOPER HIGHLIGHTS

NARC (PICTURED)
SYSTEM: ARCADE
YEAR: 1988

DEFENDER
SYSTEM: ARCADE
YEAR: 1980

SMASH TV
SYSTEMS: ARCADE
YEAR: 1990

ROBOBUGS

Like *Defender*, *Robotron* has bugs that weren't discovered until the game was shipped, the most interesting of which is known as the Mikey bug. "Due to a programming error, when you enter a Brain wave, they're supposed to seek the closest human, but they all go after the same one – initially Mikey," explains Eugene. "If no humans are killed, they'll keep seeking the same one, and if you figure out where the Brains are going and keep that person alive, you can keep the Brains from reprogramming any humans. That's a key strategy for getting bonuses – keep the Brains on one person and you can get the maximum amount of 5,000 points for each human saved."

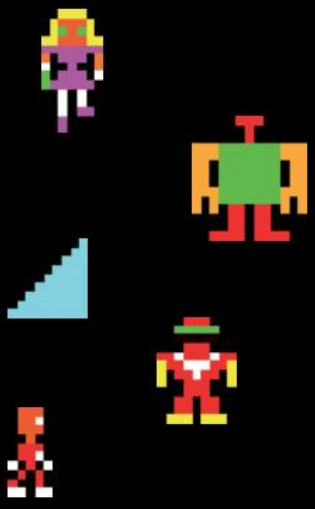
Elsewhere, hardware limitations caused another quirk: if Tanks fire 20 shots that don't hit anything, they decide to become pacifists and cease firing – a rare quality in the frenetic and ceaselessly violent world of *Robotron*!

» Tanks fire huge projectiles that bounce around the screen, adding to what Eugene calls "a nice chemistry of shots".

THE MAKING OF...
ROBOTRON: 2084

» *Robotron* has interactive explosions, but instead of enemies exploding in a shower of particles, their scanlines fly apart.

» *Berzerk!* provided much of the initial inspiration for *Robotron*, although Eugene's game is faster and tougher.



misses," explains Eugene. "Therefore, we added random direction – instead of shooting directly at the player, Enforcers shoot within ten pixels of your location, and therefore might still hit you."

With some projectiles taking into account the player's velocity, thereby aiming at where you're heading, and having random acceleration to make their paths curve, you might swear they're sometimes seeking you, but that's not the case – they're just using parameters available when shots are made. Interestingly, because of the 'cheap form of division' used to determine distances between enemy and player, Enforcer shots always arrive in the same time-frame, regardless of distance travelled. "The further you are from an enemy, the faster the shots get, and so it's almost safer to be nearer the enemies," explains Eugene. Although counter-intuitive, this is a gameplay mechanic seasoned players exploit – as Eugene says, "If you try running into corners, life can be short, especially since projectiles that hit walls just follow their lines, funnelling into corners."

Eugene also decided to make Enforcer spawning rather different to that of GRUNTs and Hulks, utilising the concept of a monster generator, a key component of later games like *Gauntlet*. "The Spheroid was devised to deposit little embryos of Enforcers around the screen. Shoot the 'mother' and offspring not yet birthed also perish," explains Eugene. "But if you die, the generators reappear and birth more. You can get into this steady-state situation where you keep dying and they keep generating – it's like you can never get them out of the way, unlike in *Defender*, which always has a fixed number of enemies."

To keep the balance of power intact, Eugene decided to enable players to shoot enemy projectiles, adding an element of defence, but it wasn't long before another foe was added: Brains. These were considered master controllers, preying on humans, turning them into brainwashed Progs that incessantly hone in on the player. "Their defence is a cruise-missile projectile that seeks you out, but in a random fashion," says Eugene. "It sometimes goes away from you and comes back, seeking a random spot around you, often killing you in the process (laughs), but this adds suspense. As they come at you, you're not sure what's going to happen."

Robotron survived in this form for a few months, but Eugene's partner on the game, Larry DeMar, then announced he wanted another enemy, the Tank. "We needed something else to punish the player and take their money, and so we created the Tank, which shoots what are essentially high-velocity ping-pong balls at you that bounce around the sides of the screen," says Eugene.

With a large selection of foes, bullets and humans populating *Robotron*'s single-screens, and technology being limited, the game's graphics were understandably basic. It was vital to make each character distinct and ensure

BLASTING BLASTER

Although Eugene planned sequels for *Robotron*, *Blaster* became the only title set in the same universe. "It's trying to throw *Defender*'s gameplay into a 3D environment, to capture the rush of flying through space," explains Eugene.

Of his early games, Eugene considers *Blaster* the weakest, because of the inherent problems of 3D. "It's exciting, stimulating and emotionally captivating through the imagery, but the player has incomplete information, and poor manoeuvrability. You can't see threats behind you – you just have a cone of visibility. And so you get killed by things you never saw, which players consider unfair."

Happily, though, Eugene notes that he thinks the industry is finally over 3D. "They're like, 'You know what? A game doesn't have to be 3D! A game can be a game!' And that's great, because it's impossible to take some formats into 3D. Take *Pac-Man* or *Space Invaders*... or *Robotron* – put them in 3D and they simply don't work."

» The controversially bloody *Smash TV* finally took some of *Robotron*'s original concept ideas to the arcades in 1990.

» [VIC-20] No, you're not hallucinating – the VIC-20 really did receive a *Robotron* conversion. It's not bad either – just don't try running diagonally, unless you want to die.

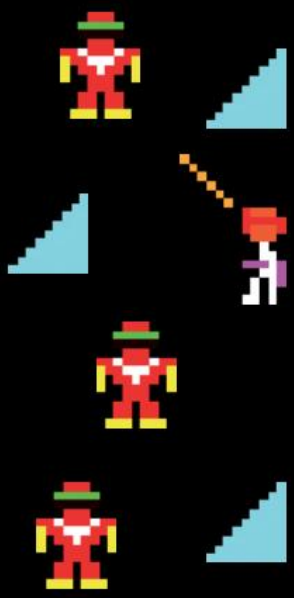
» As the player re-enters the arena after a nasty death, things already look bad.

enemies stood out. "The beauty of the black background is there's no clutter to distract the player," explains Eugene. "The game's all about the enemies, and the graphics were designed so you can see the contrast, even with dozens of enemies on screen." That said, *Robotron* does make one concession to visual impact, borrowing a trick from *Defender*. "We refined the explosions, separating a character's scanlines – as opposed to *Defender*'s particle explosions. How and where you hit an enemy defines where the lines go, which is very '*Defender*-esque', creating beauty and different patterns of explosions."

This fine-tuning and attention to detail resulted in a game that feels very complete, but Eugene says he always wanted to make *Robotron* sequels, mostly to implement the game's original vision. This included a world of mazes – a huge underground complex to explore, within which is a mastermind computer to destroy. "I guess *Smash TV* utilised some of those ideas, and with *Robotron*, just the game became fun," considers Eugene. "It's an interesting school of game design – do what you can to get something running, and if that's fun, you're done. Rather than implementing everything from your vision, implement the simplest reduction. If it doesn't correspond to your original vision, who cares?"

Robotron's combination of simplicity and brutal, ferociously relentless action won plenty of fans, and it remains popular today, both in itself and as a source of inspiration for other designers. "I look at *Robotron* like chess – it has simple rules, but every game is different. With a simple universe and set of rules, you allow characters to freely explore them and take things to their limits," muses Eugene. And on the likes of *Geometry Wars*, he's unselfish and open: "It's awesome to see modern designers using the classic 2D *Robotron* format and exploring new play elements and concepts. There's a beauty in the gameplay and it's a viable, fun format."

Eugene confirms he's a fan in general of classic formats making a resurgence, and believes such games are beneficial to the industry. "The beauty of the retro-gaming movement is the recognition that the game is an art form and doesn't necessarily get obsolete just because it lacks the latest 3D motion-captured ray-traced graphics." He compares retro with punk-rock – stripping things back to basics. And although you wouldn't want to experience honed-down simplicity for your entire life, there's a purity and timelessness to classic, straightforward gameplay. "With *Robotron*'s gameplay, the beauty is in the limitations – you're stuck on one screen, and that confinement makes the game. If you could walk to somewhere else, it wouldn't be as much fun. You're trapped, and you have to fight," says Eugene. "A game is a reduction of life – being restricted to some little world that has its own rules. And the industry has finally recognised that graphics aren't everything – it's all about the game."



» [GBA] It's the GBA tribute to *Llamatron*, *Llamaboost*, which is like *Robotron* twice removed.

» [Lynx] The tiniest *Robotron* you ever did see, on the Atari Lynx. This version isn't entirely hateful, although the rotational firing controls get old fast.

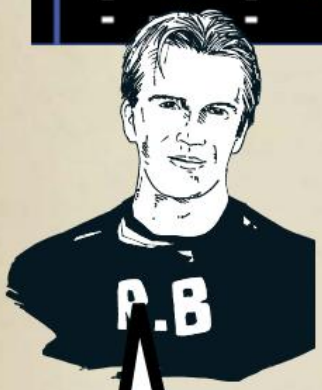
CHARTS

SEPTEMBER 1982

VIC-20

1. Another Vic In The Wall (Bug-Byte)
2. Asteroids (Bug-Byte)
3. Space Storm (Rabbit Software)
4. Amok (Audiogenic)
5. Blitz (Commodore)

» [Atari 2600] Does 2600 gaming get any better than David Crane's *Pitfall!*? Sold in the millions and deservedly so.



SEPTEMBER 1982 – Atari falls for Pitfall!, Bug-Byte backs down, CGL Puck Monster arrives, Jupiter Ace and Ultimax due, Psion delivers games while Delta Tau One begins a manic journey. Richard Burton hopes his copy of Delta still loads…

THE LATEST NEWS FROM SEPTEMBER 1982

The Atari 2600 was having a purple patch for new game releases, and September continued the run. Created by David Crane and released by Activision was the jungle run-and-jump classic *Pitfall!*. Introducing Pitfall Harry, you must guide him through the jungle, jumping and swinging your way past crocodiles and scorpions to find the treasure, all against the clock. *Pitfall!* was a huge hit for Activision on the 2600, selling 4 million copies and becoming the second-bestselling Atari 2600 game ever.

Also from Activision and due for imminent release was the excellent *Chopper Command*. Your mission is to protect a convoy of trucks while destroying the enemy planes and helicopters. It was unashamedly a *Defender*-esque game but played much better than Atari's own official 2600 version. For one thing the graphics were smooth and flicker-free, unlike the atrocious *Defender*.

Atari took its interest in Bug-Byte's Commodore VIC-20 *Pac-Man* game, *Vic-Men*, to the next level by seeking an injunction to stop the sale of the game, as Atari thought it infringed the *Pac-Man* copyright. It also singled out another *Pac-Man* clone, Commodore's *Jelly Monsters*, also for the VIC-20.

In both cases Atari wanted sales of the offending games to stop and for the remaining stocks and all profits from sales of them to be handed over, and to have full access to both companies' records.

Bug-Byte, not having the financial clout to battle the juggernaut that was Atari, backed down, gave up its *Vic-Men* stock and ceased selling the game. Commodore was still mulling over its next move…

CGL was also climbing aboard the *Pac-Man* bandwagon with its release of *Puck Monster*. However, its game was of the tabletop electronic variety, with an attractively curved yellow case and a vacuum fluorescent display.

With the usual *Pac-Man* maze to negotiate and pills to pop, *Puck Monster* was a huge hit for CGL when released at a price of £24.95. The only downside was the built-in miniature joystick, which was so stiff that it guaranteed a blister on your thumb after prolonged use.

» [ZX81] A flight simulation in 16K? You bet… and it was damn good too.

It wasn't from Jupiter and was never that ace, but Jupiter Cantab insisted that its new home micro, the Jupiter Ace, was the future of home computing.

Jupiter Cantab, a company set up by Richard Altwasser and Steve Vickers, both of whom were heavily involved in the design of the ZX81 and Sinclair Spectrum, left Sir Clive's employ in April to pursue their Jupiter Ace dream.

The Jupiter Ace boasted 3K of RAM and 8K of ROM and, uniquely, was the first home computer to use FORTH as its default programming language rather

» Introducing the Jupiter Ace from Jupiter Cantab. It encouraged us to dump BASIC and go FORTH and multiply…

APPLE II	ZX81	MUSIC
1 Choplifter! (Brøderbund)	1 Football Manager (Addictive Games)	1 Eye Of The Tiger (Survivor)
2 Wizardry: Knight Of Diamonds (Sir-Tech)	2 Mazeman (Abersoft)	2 Private Investigations (Dire Straits)
3 Pursuit Of The Graf Spee (SSI)	3 3D Monster Maze (JKGreye Software)	3 The Bitterest Pill (I Ever Had To Swallow) (Jam)
4 Rendezvous: A Space Shuttle Flight Simulation (Edu-Ware)	4 QS Invaders (Quicksilva)	4 Save A Prayer (Duran Duran)
5 Deadline (Infocom)	5 Meteor Storm (dk'Tronics)	5 Walking On Sunshine (Rocker's Revenge Ft. Donnie Calvin)

SEPTEMBER 1982 NEWS

14 September saw the death of a princess in a car crash. Princess Grace of Monaco, also known as Grace Kelly, died after her car was involved in a crash.

Her car apparently left the road and tumbled repeatedly as it fell into a ravine. The Princess's daughter, Princess Stéphanie of Monaco, was also in the car but suffered only superficial bruising.

Grace suffered a brain haemorrhage, and despite hospitalisation her condition deteriorated. Investigations followed and suggested that she had suffered a stroke while driving.

» Knight Rider - a crime fighting David Hasselhoff and a talking Trans Am with turbo boosts a plenty. What's not to like?

9 September brought the UK premiere of the Ridley Scott science fiction film starring Harrison Ford, Rutger Hauer and Daryl Hannah, *Blade Runner*.

On 26 September, the first transmission of a new television series occurred. The first episode of *Knight Rider* introduced us to David Hasselhoff as the crime-fighting Michael Knight, and the real star of the show. KITT was a Pontiac Trans Am installed with an advanced supercomputer with an ego to match, and a turbo boost that was used at least once per episode…

30 September saw another much-loved series premiere on US television: the bar-based comedy called *Cheers*, starring Ted Danson and Shelley Long, alongside many other great characters. *Cheers* was almost cancelled early in its first series after the premiere rated as the worst of any new series. It survived and went on to become a hit, running for 11 seasons, 270 episodes, and one equally popular spin-off, *Frasier*.

than the more conventional BASIC. The Jupiter Cantab team confirmed that the Ace would be aimed more at the programmer than the games player.

With Sinclair having great success with the Spectrum and having just slashed the price of the ZX81 to £49.99, the £89.99 price tag for the Jupiter Ace no longer seemed that attractive. It would be available from the beginning of September, initially through mail order only.

Another new micro intended to have its official UK release in time for Christmas was the Commodore Max, also known as the VC-10 in Germany and Ultimax in America. The Max was released in Japan essentially as a very cut-down version of the Commodore 64. However, it made virtually no impact on the market there and was quickly discontinued. Plans for the UK release of the Max in December, priced at £110, were shelved.

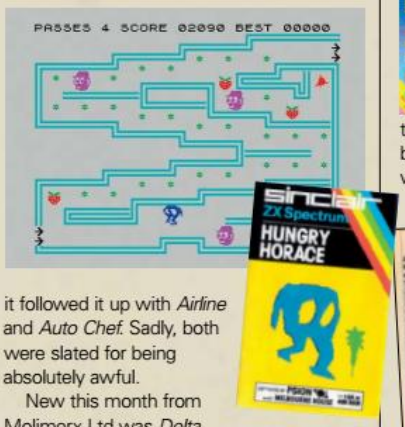
A swath of new ZX81 software was promised by Sinclair for its own-brand software label. Despite the many educational titles, a few nuggets of gaming joy also materialised. Not least was the excellent *Flight Simulation*. Developed by Psion, it simulated flying a twin-engine, propeller-driven light aircraft and, given the limitations of a 16K ZX81, Psion had done wonders to create something so involved. *Flight Simulation* proved to be a huge success for both parties.

The two companies collaborated again to release several new titles for the new Sinclair Spectrum. They were launched at the Personal Computer World Show, the annual trade fair held in London every September. As was the trend at the time, all three were thinly disguised variants of current arcade favourites: *Hungry Horace* was *Pac-Man*, *Space Raiders* was *Space Invaders*, and *Planetoids* was *Asteroids*. That said, they were all good renditions and a step in the right direction for Spectrum software.

Cases Computer Simulations, more commonly known as CCS, released its next two management strategy games on both the ZX81 and Spectrum. Having recently released its first game, *Print Shop*, it followed it up with *Airline* and *Auto Chef*. Sadly, both were slated for being absolutely awful.

» [TRS-80] *Delta Tau One* for the Tandy was Matthew Smith's first commercial product. It sold 14 copies…

» [Spectrum] A new wave of Sinclair games for the Spectrum introduced us to the iconic Horace in his first outing.



New this month from Molimerx Ltd was *Delta Tau One* for the TRS-80. It was a simple yet deceptively testing *Space Invaders*/*Phoenix*-styled game, and although the black-and-white graphics were simplistic, what it lacked in visuals it made up for with the frantic speed of gameplay and smoothness of sprite movement. Once you had shot your way through six levels, you would then have to do it all again but with the added impediment of a shower of missiles raining down on you.

Despite its quality, *Delta Tau One* was barely heard of, even on the TRS-80 software scene. Literally only a handful of copies of the game were bought, with the programmer once stating that he thought it had only sold about 14 copies.

This being the programmer's first ever commercial foray into games development, it wasn't the most spectacular of starts to a coding career. Still, Matthew Smith's time was yet to come…

THIS MONTH IN…

TILT

The first issue of the long-running French games magazine made its debut this month. With articles on handheld LCD games, Intellivision, the arcade on Brighton Pier and pinball tables, it was certainly a varied read. It was interesting to note the full-page ads for champagne and cigarettes too…

POPULAR COMPUTING WEEKLY

PCW spoke to Steve Vickers and Richard Altwasser. Both helped design the Spectrum but wanted to make their own micro. The Jupiter Ace began development while they worked at Sinclair, but they left just after the Spectrum was launched.

YOUR COMPUTER

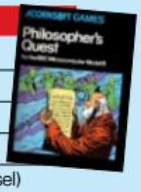
YC interviewed Hermann Hauser, Acorn's technical director, about beating Sinclair to the BBC deal. Hauser said: "The BBC came in on the Monday with the specifications and returned on the Friday and saw a working prototype." He added: "Clive Sinclair had a terrible chip on his shoulder."

CHARTS

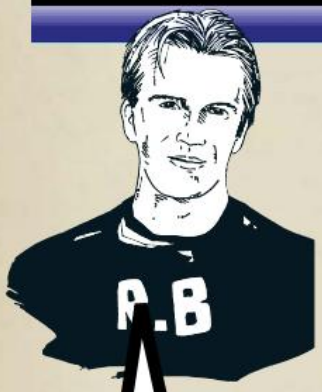
OCTOBER 1982

BBC B

1. Space Warp (Bug-Byte)
2. Philosopher's Quest (Acornsoft)
3. Backgammon (Bug-Byte)
4. Mutant Invaders (IJK Software)
5. Great Britain Limited (Simon Hessel)



» [Spectrum] *Cosmos* was the first step on the road to great things from Costa Panayi.



OCTOBER 1982 – TI cuts, Sord hanging over your head, alas poor Oric, Camputers attempts the Lynx effect, Atari attacks Demon Attack, Acornsoft goes arcade mad and Parker feels the Force. Obi-Wan Burtoni thinks these are the games you're looking for…

THE LATEST NEWS FROM OCTOBER 1982

In an attempt to coax prospective home computer purchasers to part with their cash for one of its TI99/4A micros, Texas Instruments launched a £50 cash refund deal to those who bought one before Christmas at the retail price of £199. The overpriced system with the limp offer wasn't attractive to anyone.

In fact, things were to get a lot more crowded in the home micro market with news that several new systems were impending. Tangerine Computer Systems hoped that its new Oric-1 machine, available in both 16K and 48K flavours, would be in shops by November, priced at £99 and £169 respectively.

Also promising a UK November launch date was Sord Computer Corporation and its Sord M5 micro. Having already been released in Japan and proving to be fairly popular, Computer Games Limited (CGL) took on the distribution of the Sord in the UK. The price was set at £150, but it barely made any impact.

One further micro trying to elbow its way into the frame was Camputers' new machine, the Lynx. It would have 48K RAM, 16K ROM, a Z80A processor and a typewriter keyboard. It would also have a minuscule software base and an even smaller following. It was to be released by the end of the month at around £249.

The Sinclair Spectrum saw some interesting new titles released for it this month. Small software house Abbex Electronics had two titles ready for release: a bog-standard *Pac-Man* clone called *Spookyman* and a shoot-'em-up going by the name *Cosmos*.

While these two titles were nothing to write home about, they did give two future programming stars their first foothold in the Spectrum software scene. *Spookyman* was written by David M Webb, who later went on to code the space puzzler *Starion* for Melbourne House, and *Cosmos* was written by Costa Panayi, who created such Spectrum favourites as *Android One* and *Two*, *TLL*, *Cyclone* and *Highway Encounter* under his own label, Vortex Software.

» [BBC Micro] In fairness, *Snapper* does look more than a little bit like *Pac-Man*.

Llamasoft was becoming more and more prolific in its releases, with several new games made available recently. For the Spectrum there was the shoot-'em-up *Rox III*, the arcade game *Super Deflex*, and a remake of a classic: the simplistic but entertaining *City Bomber*.

VIC-20 owners had their own version of *City Bomber* entitled *Blitzkrieg*, and the original arcade game, *Traxx*. It sold well and a year later a Spectrum version was released by Quicksilva, with development under the watchful yet hairy gaze of Llamasoft head honcho Jeff Minter.

Another month and another lawsuit brewing… Imagic had just released its new game, *Demon Attack*, on the Atari 2600 in the UK. The *Phoenix*-styled game, developed by former Atari programmer Rob

» The Sord M5 was big in Japan but couldn't do much in the crowded UK micro market.

COLECOVISION	ZX81	MUSIC
1 Space Panic (Coleco)	1 Football Manager (Addictive Games)	1 Do You Really Want To Hurt Me (Culture Club)
2 Lady Bug (Coleco)	2 Trader (Pixel Productions)	2 Pass The Dutchie (Musical Youth)
3 Zaxxon (Coleco)	3 3D Monster Maze (JK Greye Software)	3 Zoom (Fat Larry's Band)
4 Smurf: Rescue In Gargamel's Castle (Coleco)	4 Space Intruders (Quicksilva)	4 Starmaker (Kids From 'Fame')
5 Cosmic Avenger (Coleco)	5 Volcanic Dungeon (Carnell Software)	5 Hard To Say I'm Sorry (Chicago)

OCTOBER 1982 NEWS

29 October saw Linda Chamberlain found guilty of murdering her nine-week-old baby daughter, Azaria. Mrs Chamberlain and her husband had been camping at Ayers Rock in Australia in 1980 when, they claimed, a dingo came into their camp and took the baby.

Azaria was never found but her bloodstained clothes were and became central to the prosecution. Mrs Chamberlain was duly tried and found guilty.

Four years later, a jacket worn by the baby was found partially buried deep in a dingo's lair. It confirmed the Chamberlains' story, and Linda was released shortly afterwards.

In 1988 the story was made into a Hollywood movie, *A Cry In The Dark*, starring Meryl Streep and Sam Neill.

On 11 October the Mary Rose, flagship of Henry VIII, was raised from the bottom of the Solent. Built in 1510, the 437-year-old ship was sunk in 1545 with the loss of her 500 crew. It had been on its way to fight the French fleet in Portsmouth Sound.

There was good news for moviegoers, with 21 October bringing the UK release of Disney's *Tron*, starring Jeff Bridges complete with light cycles and discs of death.

» *Tron*'s pioneering effects work and iconic action sequences earned it cult status and a 2010 sequel.

22 October saw the world premiere of *First Blood*, starring Sylvester Stallone. The original ending intended Rambo to commit suicide, as in the book, but this was deemed too depressing by test audiences and was altered. Three more *Rambo* movies followed… Ker-ching!

» The hot panel above the power circuitry on the TI-99/4A could be used to keep drinks warm, among other things.

» [Atari 2600] Parker Brothers' *Frogger* conversion was a hit, commercially and critically.

Fulop, who also coded the classic *Missile Command*, sold very well and became Imagic's bestselling cartridge game.

Demon Attack was an excellent game on the Atari system, and while it continued to sell well on both sides of the Atlantic, Atari pressed forward with its claim of breach of copyright and sued Imagic. Both companies agreed to settle out of court, and *Demon Attack* went on to sell over 1 million copies.

Although not as dramatic, there were two new 2600 releases from Parker Brothers. The first was based on the *Star Wars* sequel, *The Empire Strikes Back*. It focused on the Hoth battle section of the movie, where Snowspeeders take on the Imperial AT-AT walkers.

Parker Brothers' second game was a much simpler affair: *Frogger*. Guide your frog across the busy road and over the logs to the safety of one of the empty bays at the top of the screen. Once the five bays were filled, it was on to the next but slightly more dastardly stage. It was another polished conversion and again, sold well.

After having some early commercial success with its utility and educational software titles, Hewson Consultants ventured deeper into ZX81 arcade gaming territory with two new releases on the system: *Puckman* and *Pilot*.

Puckman was yet another *Pac-Man* clone, albeit one of the better ones. Given the limitations of the ZX81, it played rather well. *Pilot*, on the other hand, was an ambitious but ultimately awful flight simulation. Written in BASIC and attempting to compete with Psion's recently released *Flight Simulation*, it suffered from the unforgivable ailment of keyboard lag. It would take a couple of seconds from pressing the controls on the keyboard to the result appearing on screen.

Being a flight simulation, this frequently meant you were trying to correct your overcorrections, eventually nose diving into the ground and/or punching and killing your ZX81. Hewson promised updated versions of both games for the ZX Spectrum…

There was some arcade joy for BBC Micro owners, with Acornsoft belatedly getting in on the tidal wave of arcade clones. Despite a rich vein of educational gaming titles, there weren't too many top-drawer arcade conversions available for the BBC. Thankfully, the release of *Monsters*, *Defender* and *Snapper* changed that.

Snapper was an excellent *Pac-Man* copy. In fact, it was so good that Namco instructed Acornsoft to change it under threat of legal action. So *Pac-Man* magically changed into a character in a cowboy hat, with the ghosts morphing into little monsters with arms and legs. Despite the graphical changes, it was the best of its kind on the BBC.

Also superb was *Monsters*, a *Space Panic*-styled game that sees you dig holes for the aliens to fall in before you slam them on the head with your spade to remove them from the game. Great graphics and animation for the time made these Acornsoft titles must-haves, even if they were overpriced at £9.95 each.

THIS MONTH IN… YOUR COMPUTER

YC interviewed Douglas Adams, writer of *The Hitchhiker's Guide To The Galaxy*, and touched upon the titular handheld electronic book that can hold millions of pages of information. "It's a matter of time before science fiction becomes science fact." Did he own shares in Apple?

POPULAR COMPUTING WEEKLY

PCW reviewed the Timex Sinclair 1000, a ZX81 clone for the US market. Touted as the first computer under $100, it was the same as the ZX81 bar some extra shielding to stop radio interference and doubling the RAM to 2K. It sold 500,000 units in six months.

COMPUTER & VIDEO GAMES

C&VG featured a guide to the TI99/4A. It dealt mainly with expansions and TI BASIC, presumably because of a lack of games. The system was popular in the US, although Texas controlled software production, resulting in a smaller library.

THE MAKING OF...

JOUST

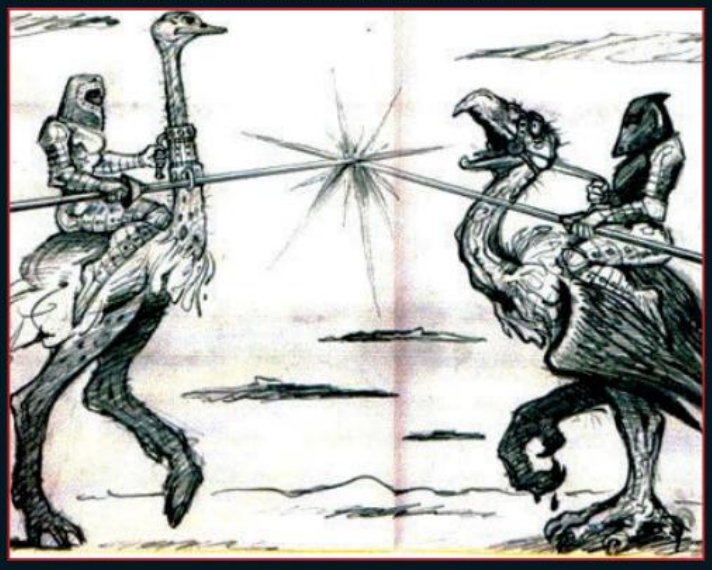
Joust was a surreal mix of flight combat, fantasy and beautifully realised physics. Designer John Newcomer recounts the unusual tale of its inception, while Mike Bevan is buzzard bait

IN THE KNOW

- **PUBLISHERS:** WILLIAMS ELECTRONICS
- **DEVELOPER:** IN-HOUSE
- **CONVERSION PLATFORMS:** ATARI 2600, 5200, 7800, ATARI 8-BIT, ATARI ST, LYNX, NES
- **RELEASED:** 1982
- **GENRE:** FLAP-'EM-UP
- **EXPECT TO PAY:** £400+ (UPRIGHT CABINET), £500+ (COCKTAIL)
- **BY THE SAME DEVELOPER:** DEFENDER (1980), STARGATE (1981), ROBOTRON: 2084 (1982)

»[Arcade] Due to its enhanced hardware's increased memory and colour palette, *Joust 2* featured a far greater level of background detail than its predecessor.

» An example of Python Anghelo's *Joust* concept art, featuring ostrich and buzzard and their riders.



"I think in the movie, Flash Gordon, there was a civilisation that rode on birds," muses John Newcomer, discussing his influences. Better than the fact that for once an Eighties videogame seems inspired by a sci-fi flick other Star Wars, it's great to hear that the spirit of the late great Freddie Mercury somehow made its way into the world of classic arcade games.

And while many would credit the output of Eugene '*Defender*' Jarvis as legendary arcade manufacturer Williams' finest hour, John can lay claim to creating one of the company's most remarkable and well-loved titles. With its bizarre medieval setting, ostrich-mounted knights, evil buzzard-riders and eerie arena of floating rock, *Joust* (in tandem with its lesser known sequel) remains truly unique among its peers. But what really set the game apart from other coin-ops of the period was its stunning recreation of Newtonian mechanics. As much as squaring up against its raptor-mounted bad guys, and governed by judicious use of its 'flap' button, *Joust* was equally about fighting gravity itself

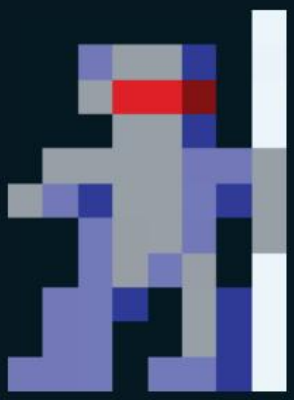
It was during his time as a toy and game inventor in Chicago that John became fascinated by the new breed of electronic entertainment emerging in the US. "I lived close to 'Mothers' arcade which was one of the most important testing grounds for arcade games in the country, and I played everything that came in," he recalls, citing *Space Invaders*, *Galaxian* and *Centipede* as "major addictions" at the time. "I had already worked on handheld toy equivalents of these arcade games, and using LEDs or light bulbs with vellum overlays was just not as satisfying as the real thing… games with colour animation. This was clearly the future."

Attracted to Williams because of the company's proximity, and the obvious experimental freedom enjoyed by its internal designers, John's timing couldn't have been better. Following the huge success of *Defender*, Eugene Jarvis and Larry DeMar had recently left to form Vid Kidz, and Williams was keen to source fresh talent. "My background as a designer tasked with generating a constant flow of ideas for a toy company seemed ideal for their needs at the time," says John. "I had given Ken Fedesna [Williams' VP of Engineering] and Software Manager Paul Dussault my resumé rolled up inside a rubber chicken as a test to see if they had a sense of play and humour that would be an environment for creativity. Apparently everyone found what they were looking for…"

John's initial responsibilities were to generate new game ideas to support the internal development staff. "One of my first tasks was to create what they called a 'Treasure Chest' of ideas that could be selected as programmers were available and some teams could be formed," he explains. "I took a couple days to list out some very rough idea germs that had potential. My two favourites were *War Of The Worlds* and *Joust*. Williams simply did not have the technology at the time to do *War Of The Worlds* anywhere close to what I would envision so it would have to sit on the shelf. *Joust* could be done using their current hardware and warehouse full of joysticks."

"The successful flying games were ones with spaceships, like Defender and Asteroids"

Teaming up with programmer Bill Pfutzenreuter and pixel artist Jan Hendricks, John's plan was to hijack Williams' existing *Defender* hardware for the project. But rather than follow the template of Eugene Jarvis's celebrated debut, John wanted to veer off on a tangent. "The core of *Joust* was to make a flying game," he says. "The successful flying games were ones with spaceships, like *Defender* and *Asteroids*. Nothing resonated in the industry that could appeal to the vast population of players who shared the common dream of wishing they could fly, but were tired of only being able to manifest that fantasy in a spaceship."



THE MAKING OF... JOUST

THE DELICATE SOUND OF FLAPPING

GIVEN THE RESTRICTIONS of the hardware, John Newcomer is rightly proud of *Joust*'s aural qualities, which hold up admirably next to Williams arcade brethren like *Defender* and *Robotron*. "John Kotlarik and Tim Murphy worked on the sounds," he says. "I cannot describe what a talent these guys had for making sounds using the caveman tools of the day. The technology was really only capable of making beeps and boops. I told them the most important sound in the game was to make a realistic wing flap sound. After John said it was impossible, he stewed on it and made it happen.

"Memory was very tight on the game and sounds are hogs. We had to limit to the most important ones and to me the bread and butter had to be those that reinforced gameplay: wing flap, pop for a defeated rider, egg hatch, transporter, bounce for tied collision, and pterodactyl. Each was instructive and designed to get the player's attention when they needed to consider an action that might change their play pattern. We also had the lava bubble sound, and the skid stop to reinforce Bill's idea to have the bird skid to a stop like in a *Road Runner* cartoon. That sound was just plain fun."

"I quickly made a list of everything that could fly, from planes to Da Vinci contraptions, squirrels, vampires, superheroes, birds and so on. Then I started listing the pros and cons of each." A self-confessed comic-book fan, John discloses that the superhero idea was a close runner-up, ultimately losing out due to what he perceived as a lack of appeal to female players. "Birds were the best fit as I was familiar with a lot of science fiction and fantasy movies and books where people had wings or flew on top of a bird or winged-creature," he explains. "For *Joust*, I specifically remember looking at a lot of mythology books at the library."

The decision to theme the game around humans mounted on mythical feathered charges led directly to *Joust*'s radical departure from the standard eight-way arcade control system. "My one light bulb idea was the 'flap' button," John admits. "By making the player press the button each time the wings flapped, and making them control speed in such a direct manner, I was able to strengthen the emotional connection between the player and the character they controlled." In fact, the decision to replace the standard fire button with the enigmatic 'flap' system in a game devoid of any shooting whatsoever was a huge gamble. The result would likely be totally different from any of the popular coin-ops already out there.

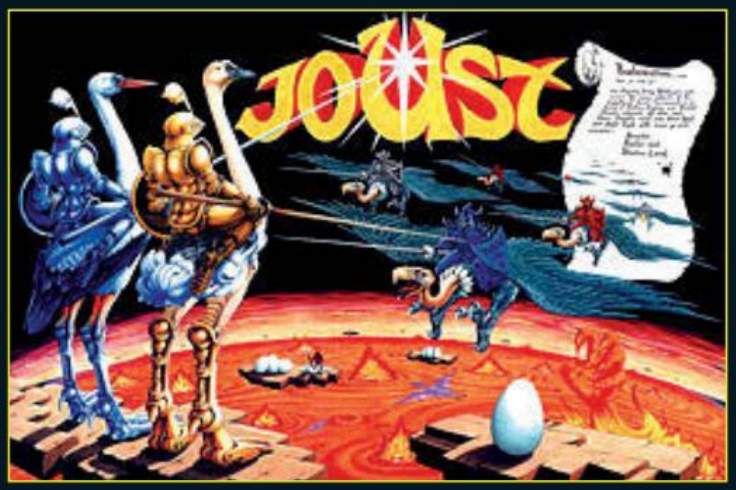
"At the time *Joust* was done I was hoping to get a broader audience who may want to try a different skill," explains John. "There were already plenty of shooting games they could play. I wanted to break some new ground. I felt I was already giving the player new things to do like having to flap, run and become so adept at flying that it would be the determining factor in how you collided and defeated an enemy. The cleanest thing I could think of to visually determine a winner was height."

This spark of inspiration led John to devise some clear predefined 'rules' for the game. Despite players having a great spike of a lance poking out in front of their super-ostrich mount, enemies could only be defeated by gaining enough height through mashing the flap button then ramming them from above. Equal-height collisions would cause both parties to ricochet off each other, while lower height collisions by the player would result in a loss of life. Defeated combatants deposited eggs which, if not collected from the play-field in time, would spawn evil knights which could climb aboard passing rider-less buzzards and re-enter the game – unless the player was deft enough to catch them from dismounted targets in mid-air.

With these rules in place, the next task was to prepare the combat arena, and John explains why the team opted for *Joust*'s platform-strewn static screen, rather than the scrolling of Williams' previous smash hit. "The hardware we had at the time would have had difficulty displaying the textured ledges [*Defender* and *Stargate* drew the backgrounds with software]," he says. "For a first game it felt better to allow the player to see everything they had to deal with." The final touch was the addition of the pool of molten lava at the base of the screen, and the disembodied arm of the 'lava troll' that would grab and destroy any unwary player that flew too low.

» The rare cocktail version of *Joust*. "This was a lot of effort for little return," says John. "Cocktail cabinet sales at all coin-op manufacturers were falling off, so the demand was low. It had to fit two people on the same side – in most table games, players took turns so the software had to flip the screen. Our advantage was we could use the exact same ROMs for either cabinet."

» A promotional poster created by Python Anghelo.



“The enemies… had to be something recognisably evil. Buzzards were the clear choice”

As for the unlikely choice of an ostrich for the player’s heroic steed, John is unapologetic. “For the good guys the logical choice was something majestic like an eagle. The problem with that is an eagle does not have land capability. It no longer looks graceful. It was far easier to make the fantasy leap and say these ostriches were specially bred for combat, from a genetic line that had strong wings and could fly.” Because *Joust* was intended as one of the first simultaneous two-player co-operative arcade games, a second playable character was also required – player two’s ‘stork’. “I was never happy with the stork,” John admits. “The decision had more to do with having a bird that could be made in similar proportions as the ostrich, with a colour that was instantly recognisable to make sure players were not confused who they were on the screen. I always imagined them more as albino ostriches…”

For the enemies, the decision was made to use vultures (or buzzards) for the main waves. A second enemy, the ‘unbeatable’ pterodactyl, only appears when players take too long to clear a wave, in a role similar to the ‘Baiters’ of *Defender*. “Actually in my twisted brain this was logical and a pretty easy decision,” chuckles John. “I listed all the types of birds. The enemies were easy. They had to be something recognisably evil. Buzzards were the clear choice. Originally I had thought they would be grey but Jan proved a better solution was to use green. It made better strategic use of the limited 15-colour palette [for foreground and background combined]. It made the birds more colourful, easy to see and entertaining.”

Artist Jan Hendricks fared valiantly in squeezing the required graphics and character animation into the hardware’s paltry 96K of memory, while retaining the game’s visual quality and surreal charm. “Jan searched for references of ostriches in motion and found it in the animator’s bible of the time, *Animals In Motion* by Eadweard Muybridge,” reveals John. “I was very sceptical that birds could be done realistically and had thought the characters would need to look somewhat cartoon. Jan proved everyone wrong.

“The hardest part was limiting the number of frames to keep the realistic look without using up all our sparse memory. Each frame was a struggle in trade-offs until we had to release. If I

» **[Arcade]** Left alone too long, eggs produce enemy riders, colour-coded to denote their rank. Here we see red Bounder riders, and a grey Hunter. Best grab that grey one pronto…

THE CAST OF JOUST

Thy Heroes

Ostrich

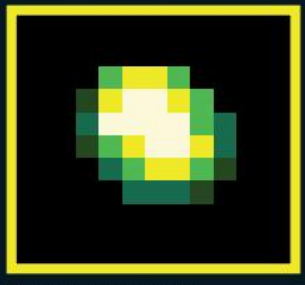
Stork

Ye Baddies

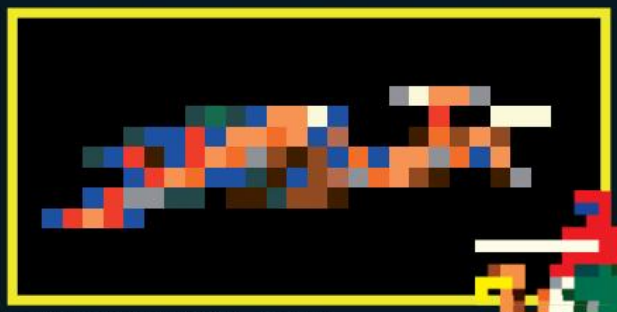
Bounder – 500 points

Hunter – 750 points

Shadow Lord – 1,500 points



Eggs – 250-1,000 points



The ‘Unbeatable’ Pteradactyl – 0 points

THE MAKING OF...

JOUST

JOHN NEWCOMER'S JOUST TIPS

Battle advice from the Joust-meister himself

THE KEY TO WINNING is not to panic and anticipate when you need to flap up. Ledges factor into the AI, and when the middle ledge is removed there is nothing to slow down the enemy upward speed. The numbers of enemies can catch you in a cross-fire at the angles of their attacks.

The best thing is to master flapping to hover in place. Also, you need to master hovering along the top of the screen so you do not dip down. The tough enemies are seeking you and are not inclined to have irregularities in their flap so you will most likely lose when you collide. Using the ledges as cover is important because there is more bounce when the enemy hits underneath the rock. If you hover consistently at the top, the enemy is likely to bounce down a couple pixels, putting you in the upper position to win in a collision. Sitting under the ledges and waiting for the birds to come to you only works for so long. You are forced out of your play pattern if you don't catch eggs in the air and take so long that the pterodactyl seeks you out.

» [GBA] John's prototype Game Boy Advance update would have featured multi-directional scrolling, a more detailed main character, and the possibility of dismounting from the bird. Sadly it was never officially sanctioned by Midway.

had more memory I would have liked to put in additional characters, or given more meaning to the lava troll."

"When the colour palette locked, I finalised all the cliffs and ledges," continues John, moving on to the game's basic but uncannily effective enemy intelligence. "This was a task I considered to be level design and I was pretty fussy about getting the vertical and horizontal spacing just right. Each ledge was strategically placed to maximize Bill's flying code and the speed of the AI buzzards, with their attack patterns created partly by the placement of the ledges. It worked a bit like water behaves when it meets the resistance of rocks near the shore."

Taking a leaf from *Defender* and its multiple enemy behaviours, the team was keen to create a hierarchy of increasingly savvy buzzard foes as the waves progressed. The first two types encountered are the lowly Bounders, which essentially blunder around the scenery, bouncing off ledges, occasionally noticing your presence; and Hunters, which are programmed to actively seek the player. Finally, players will come up against the notoriously hard to defeat and fast-flying Shadow Lords. "Each rider type had a slightly different tendency," says John. "Shadow Lords got tough because they would seek high ground especially when in proximity to the player. The result was when they are close to you they fly up sharply. Factoring the speed of the flap and drift between flaps, it created a high probability of them hitting the player at an angle when they were higher than you."

Happily for John and his team, arcade-goers embraced the unusual control system, driving sales and providing Williams with an unexpected hit that provided a welcome, arguably more cerebral alternative to *Defender*. Some players, however, quickly noticed a loophole in the game's code that John admits left him "beating my head against the wall because it was a stupid mistake." This being the infamous so-called 'pterodactyl bug', which exploited the undocumented ability to kill the creature by lancing it in the mouth at a precise moment during its animation cycle.

"Bill and I had adjusted the pterodactyl so the attack path made a severe uplift at the last moment which would kill anyone who tried to use a strategy of just standing on a ledge to kill the bird," he explains. "Then, a day before the game shipped, the pterodactyl art was tweaked to improve the look. I was not aware the frame with the open mouth had shifted one pixel, and should have checked it. One pixel is all it took for players to be able to just stand on the centre ledge and let the creature skewer itself, giving the player a perpetual 1,000 points. We had to make a quick fix and issue updated ROMs to give to the distributors of the game immediately."

» [Arcade] Take too long to defeat your opponents and you'll incur the wrath of the pterodactyl, which hunts you relentlessly until the wave is completed. A glitch that made it defeatable was soon fixed.

THE BUZZARD STRIKES BACK

Despite improved hardware, Joust 2 achieved only a fraction of the success of the original game

JOUST'S ILL-FATED sequel was the result of a request from Williams for a kit conversion that could be used with upright monitors – the most common at the time due to the popularity of *Pac-Man*. "We all thought the best chance at selling a kit was to make a sequel," explains John. The vertical screen allowed extra height for swooping down on enemies, while a 'transform' button let players switch forms between the ostrich and the heavier but more powerful Pegasus. *Joust 2* had 35 distinct screens sporting Escher-influenced backgrounds and new enemies (such as the bats, and the boss-like Robot Knight) and was much tougher than its predecessor.

"The Pegasus provided a little variety in tactics for the player to get out of tough situations and win those head-on collisions on land," says John. "The giant robot was to put more into the villain progression." He admits he's not as happy with the game design as he was with the original, due to certain restrictions of the vertical format. "I shouldn't have done it under those limitations," he says. "*Joust* play mechanics work for a horizontal monitor or could work if the screen scrolled in all directions. Vertical affected reaction time, and the effect of AI attacks. There are some good things about it, but I could have done a better job pushing the tools I had."

> "It took some risks, had a basis in good design structure... and used strategy differently"

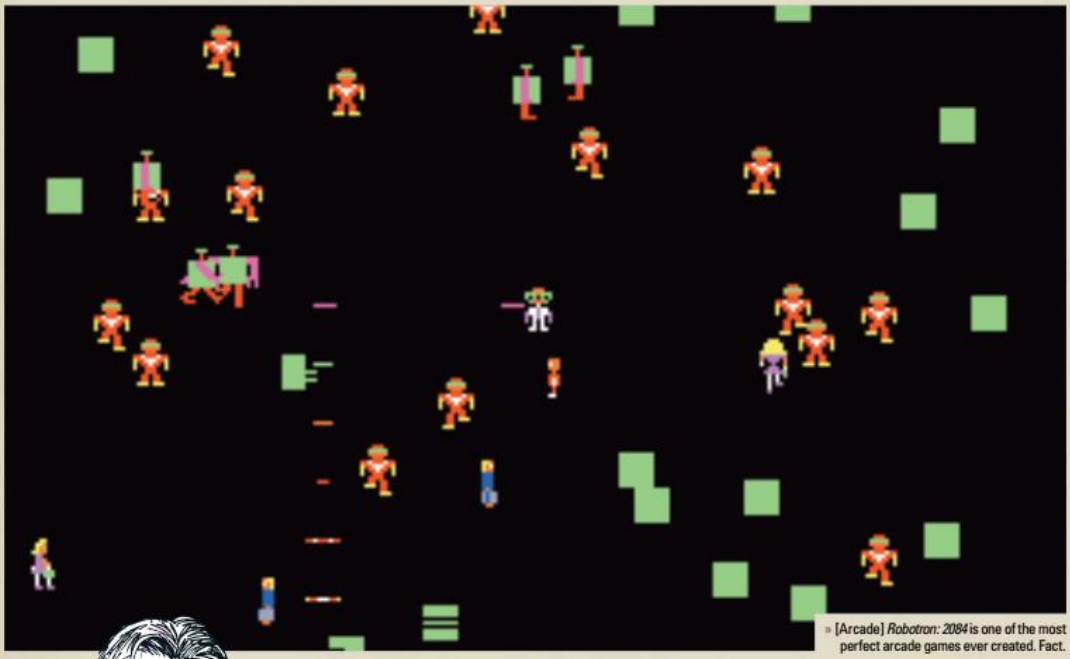
Despite this minor 'fowl-up', the overall success of the game led to Williams green-lighting a sequel. The result was *Joust 2: Survival Of The Fittest*, which hit arcades three years later, in the aftermath of the mid-Eighties games crash. Despite building on the solid design of the original, it shipped less than a thousand units, in comparison to *Joust*'s 26,000. A similar fate befell the *Joust* pinball game created by Williams to tie in with the original videogame's release. "I wasn't too much of a fan as it was designed to be primarily a two-player game which addressed a very small sliver of potential customers," comments John. "*Joust* would have been much better as a single-player-focused pinball machine where you had to bump targets and collect eggs before they hatched."

Recently, John has toyed with the idea of various console and portable updates (revealing a promising design prototype he created for the Game Boy Advance) and even a movie. "I am very proud of the original *Joust*," he states. "It took some risks, had a basis in good design structure, tried to expand in a different art style for the time, had two-player simultaneous play, and used strategy differently than previous games." He remains grateful to the management at Williams who allowed him to pursue his vision so completely, something he's fairly sure would never have happened in today's corporate-led development climate.

"What was extraordinary was that Ken and Paul were always supportive and shielded the team as much as possible," he says. "They just wanted us to focus on getting the job done in the time-frame. Williams president, Mike Stroll, could have at any time pulled the plug, but didn't. Think about that. You are in the top management of the company. You have a new guy in charge of a game that is bending a lot of rules, making something that is not similar to the previous big successes in the company. Industry advisors and experts are telling you the game is not going to do well because there's no shooting and various other reasons. You hold the jobs of a big manufacturing line in your hands. Yet they continue to let this new guy and untried team finish the game and see what happens. That took guts. Looking back, as much of a rebel as I have been from time to time in my career, I don't know if I could have taken that risk. I thank Mike, Ken and Paul for giving myself, Bill and the rest of the team that opportunity."

» A 3D render created for John's proposed Game Boy Advance incarnation of *Joust*.

» A concept for the buzzard created by Python Anghelo, who later became famous for his pinball machine artwork.



» [Arcade] *Robotron: 2084* is one of the most perfect arcade games ever created. Fact.

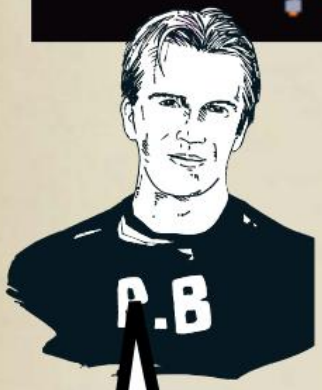
CHARTS

NOVEMBER 1982

ATARI 2600

1. Pitfall! (Activision)
2. Berzerk (Atari)
3. Defender (Atari)
4. Demon Attack (Imagic)
5. Star Master (Activision)

» [Spectrum] Melbourne House's take on *The Hobbit* was pitched just right to entice non-adventurers to take the plunge.



NOVEMBER 1982 – Atari 5200 arrives, Melbourne House takes on Tolkien, Automata goes for gold, Z-Man turns official, Robotron: 2084 in UK arcades and Caveman on UK dinner tables. Richard Burton wipes the egg off his loincloth…

THE LATEST NEWS FROM NOVEMBER 1982

Tangerine Computer Systems ran into production problems with its impending release of the Oric-1. Both the 16K and 48K variants were now hoped to have a mid-December release. Critically for Tangerine, it would miss out on much of the Christmas trade while the competition forged ahead…

Having been released in August in America, the Commodore 64, like the Oric-1, was due for its UK release this month, but this was also delayed until mid-December. As a result the VIC-20, which was due to be dropped, would continue in production well into 1983.

Atari launched its newest console in America, the 5200 or Advanced Video Entertainment System, after previewing it earlier in the year. The powerful machine had a CPU based on the Atari 400 computer. Promising and looking the natural successor to the reliable old faux wooden-fronted 2600, it was strangely overlooked by Atari going forward, which seemed more intent on squeezing the last few drops of gaming goodness out of the 2600.

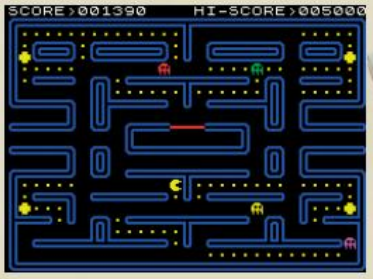
The 5200 criminally faded from view. It was potentially a great system, albeit with some absolutely rubbish controllers featuring a non-centring stick that made many a game a chore to play. The controller did have the innovative feature of a pause button, though, so you could stop and survey your impending death due to the crapness of control.

Sharp announced its newest home micro, the MZ-700, and promptly released it in Japan. It made it to UK shores a year later. The distinctive-looking machine had a built-in tape deck and printer, and it sold steadily in Japan. However, the UK didn't take to it at all, and despite a hearty effort from the likes of Solo Software and Kuma at giving steady software support, a lack of quality games helped consign it to early retirement.

Melbourne House had great news for fans of Tolkien and text adventures, having arranged a deal to produce an adventure based on *The Hobbit*. The adventure would be available on the Spectrum initially, with conversions to several other formats later. It would come complete with a paperback version of *The Hobbit*. Good job too considering its £14.95 price tag.

Another adventure released for the Spectrum this month, as well as the Dragon 32, ZX81 and BBC, was *Pimania* from Automata. Despite the game being mostly illogical, user-unfriendly and tediously slow to play, the chance to glean the location of the specially commissioned Golden Sundial of Pi swayed many to part with a crisp £10 note. The adventure would point you to a real location somewhere in the UK, which you would have to travel to at a specified time.

The sundial was worth £6,000 and made from gold laced with diamond, obsidian and lapis lazuli. It was eventually found in the mouth of the chalk White Horse on



» [Spectrum] From unofficial, Atari-annoying *Z-Man* to official, Atarisoft-released *Pac-Man*. Nice work.

» The Sharp MZ-700 never made much of an impact in the UK and software houses never made many games for it either.

ATARI 400/800	COLECOVISION	MUSIC
1 Star Raiders (Atari)	1 Zaxxon (Coleco)	1 I Don't Wanna Dance (Eddy Grant)
2 Pac-Man (Atari)	2 Space Panic (Coleco)	2 Heartbreaker (Dionne Warwick)
3 Missile Command (Atari)	3 Venture (Coleco)	3 Mirror Man (Human League)
4 Jawbreaker (Atari)	4 Lady Bug (Coleco)	4 Mad World (Tears For Fears)
5 Centipede (Atari)	5 Donkey Kong (Coleco)	5 Sexual Healing (Marvin Gaye)

NOVEMBER 1982 NEWS

7 November saw the Thames Flood Barrier become operational for the first time. Built to protect London from tidal surges, the ten steel gates can be raised to the height of a five-storey building.

30 November brought the release of Michael Jackson's sixth studio album, *Thriller*, by Epic Records. Containing such hits as *Beat It*, *The Girl Is Mine*, *Billie Jean* and the title track *Thriller*, the album is estimated to have sold upwards of 100 million copies since its release.

» "Have you got a video?" "Yes. We've. Got. A. Video!"

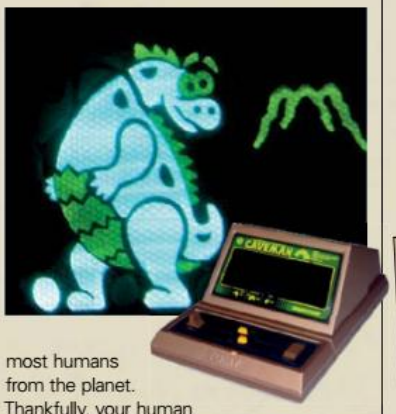
On 2 November, Channel 4 began broadcasting in the UK. With only BBC1, BBC2 and ITV as the other viewing options, Channel 4 set out from the off to become an alternative channel with content that would occasionally overstep the mark.

The first programme to air on the new channel was the wordy quiz show *Countdown*, hosted by Richard Whiteley and ably assisted by Carol Vorderman. It still runs on the channel, albeit with a change of personnel. In the evening, Channel 4 treated viewers to a new comedy show, *The Comic Strip Presents…* with the first episode *Five Go Mad In Dorset*. Cue instant cult status.

BBC2 introduced us to the wonderful world of *The Young Ones* on 9 November. The group of four students from Scumbag College and their often surreal and frequently violent slapstick comedy fast became a school and college favourite. Not a bad week to be Ade Edmondson, Nigel Planer and Rik Mayall.

» The Atari 5200 was its new console, yet Atari seemed intent on keeping the 2600 alive.

» *Caveman* from Grandstand was to be found under many a Christmas tree in 1982.



Hindover Hill, Sussex. At current gold prices, the scrap value could probably bail out Greece from its ongoing debt crisis…

The conveyor belt of *Pac-Man* clones continued unabated, although Bug-Byte's new Spectrum version called *Spectres* could be seen as being slightly cheeky after the developer was told in no uncertain terms by Atari just a month or so prior to cease production of its VIC-20 *Pac-Man* game, *Vic Men*.

Atari's all-seeing eye was seemingly targeting anyone who fancied chancing their arm at producing a maze-based power pill gobbling game. Small software house DJL Software was asked to supply copies of both of its *Pac-Man* games: *Zuckman* on the ZX81 and *Z-Man* on the Spectrum. DJL duly obliged.

Oddly, though, things turned out rather well for DJL in the long run; *Zuckman* was considered to be okay by Atari, while *Z-Man* had to be withdrawn and reworked. The newly modified game was then taken on by Atarisoft and released as the official Spectrum version of *Pac-Man*. DJL also went on to develop the Spectrum version of *Ms Pac-Man* for Atarisoft.

When not keeping tabs on the competition, Atari occasionally released its own software, and this month saw *Star Raiders* arrive on the 2600. A first-person space shooter, *Space Raiders* was the first 2600 game to use Atari's Video Touch Pad, which allowed you to access maps and shields, and use the hyperwarp. When we say 'first', we actually mean 'first and only', as no other Atari 2600 game employed the Video Touch Pad controller again.

Imagic also had a new 2600 release with its arcade adventure, *The Riddle Of The Sphinx*. With your quest through Egypt to find the Temple of Ra, you must negotiate thieves and tribesmen, avoid dying of thirst, and make the correct offerings at various temples and pyramids. *The Riddle Of The Sphinx* was a complex yet enjoyable jaunt.

Having enjoyed huge success in American arcades, *Robotron: 2084* finally made its way to the UK. The Williams Electronics coin-op game saw robots taking over the world with the cleansing of most humans from the planet. Thankfully, your human character is a gun-toting superhuman who takes on wave after wave of robots, saving humans along the way.

The two-joystick design – one for character movement and one for directional weapon firing – combined with the fast-paced, almost manic gameplay led to *Robotron* becoming a firm favourite in UK arcades too.

Tabletop videogaming at Christmas looked promising with the UK release of *Caveman* by Grandstand, under licence from Tomy. With its eye-burningly bright coloured vacuum fluorescent display, you controlled the little caveman who has to steal dinosaur eggs from under the nose of said creatures. With airborne impediments in the form of pterodactyls and, on later levels, red hot rocks raining down on your furry loincloth from an erupting volcano, the game was simple and fun and destined to become one of Grandstand's bestsellers since *Astro Wars*.

THIS MONTH IN…

YOUR COMPUTER

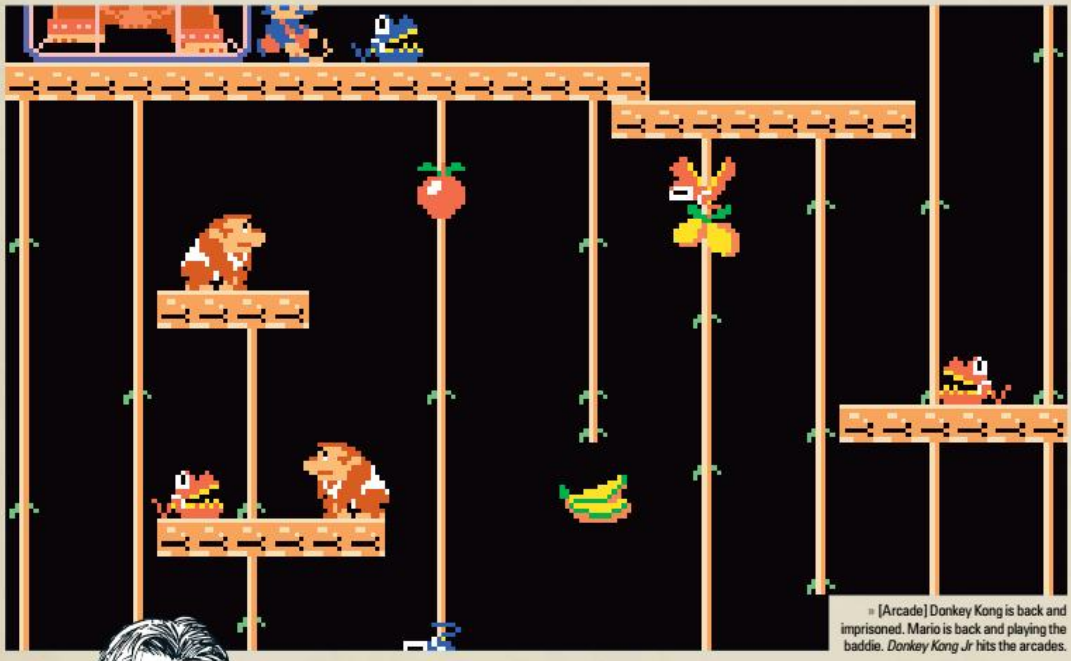
YC interviewed Clive Sinclair, mentioning the contentious deal Acorn won to produce the BBC Micro. Obviously still smarting from not winning the contract, Sinclair states: "If it wasn't for the fact that the BBC allow Acorn to stick a BBC logo on their machines, I don't think they would sell many computers."

POPULAR COMPUTING WEEKLY

PCW interviewed the Tape Duplicating Company and looked at the manufacturing process. A length of tape is over 8,500 feet long and copied at 64 times normal speed, creating 150 copies per minute. It is then spliced into individual shells.

SINCLAIR USER

SU spoke to Clive Sinclair's right-hand man, senior engineer Jim Westwood. Having worked for Sinclair for 20 years, the unassuming gent played himself down, dismissing his role as simply "fiddling with the components and trying to get things working".



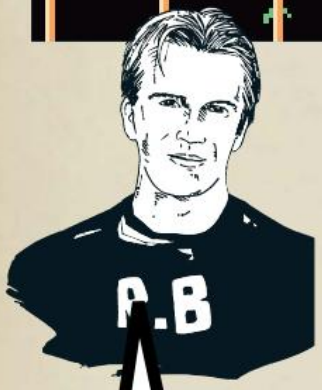
» [Arcade] Donkey Kong is back and imprisoned. Mario is back and playing the baddie. *Donkey Kong Jr* hits the arcades.

CHARTS

DECEMBER 1982

ZX81	
1	Mazeman (Abersoft)
2	3D Defender (JK Greye)
3	Mazogs (Bug-Byte)
4	Frogger (DJL Software)
5	3D Monster Maze (JK Greye)

» [2600] The magnificent *River Raid*. Not sure about the collision detection, though…



DECEMBER 1982 – CRL grabbed by The Orbs, Silversoft shows enterprise, Mikro-Gen, E.T. arrives, Donkey Kong Jr hits the arcades while Galaxy Invader 10000 and Scramble hit tabletops. Richard Burton's batteries have run out again…

THE LATEST NEWS FROM DECEMBER 1982

After suffering teething problems since release, the Sinclair Spectrum appeared to be taking a stranglehold in the home computing market. With reliability issues, staff striking at its manufacturing plant and delays in getting machines out in the past, the corner looked to have been turned with orders being fulfilled quickly and a new deal with WHSmith to stock the Spectrum in most of its stores after previously only being available through mail order.

In a similar move, Jupiter Cantab, creator of the Jupiter Ace, announced that it had also moved away from mail order, with such illustrious retailers as Laskys and Debenhams taking stock of the machine.

The continuing trend for new computers due for release before Christmas but delayed until the new year struck again with the Acorn Electron. It was expected to be out for the Christmas sales push but joined the Oric-1 and Commodore 64 on the sidelines. Presumably Clive Sinclair was positively rubbing his hands together…

CRL announced its first wave of Spectrum games along with various Dragon 32 releases. Having had success in the ZX81 market, CRL naturally progressed onto the Spectrum with *Derby Day*, *Rescue*, *Jackpot* and *In Search Of The Orb*.

While pretty standard fare involving horse-racing and fruit machines, *The Orb*, a graphical role-playing adventure, was to cause problems. The game had been written by a freelance programmer and offered to CRL, which duly took it on and began production. Little did it know that *The Orb* infringed copyright of a game by Argus Specialist Press called *The Valley* by being virtually identical. Once Argus had spoken to CRL, *The Orb* was swiftly withdrawn and compensation paid.

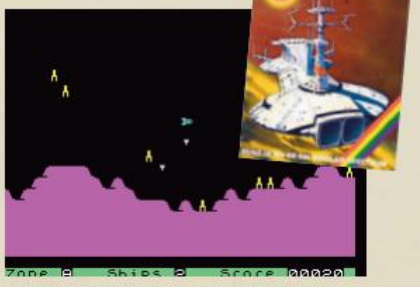
New to Spectrum games was Silversoft, which announced a wave of new arcade games for imminent release. It wasn't surprising to see that the first three games were all conversions of popular coin-ops of the time, with *Orbiter* a clone of *Defender*, *Ground Attack* a version of *Scramble* and *Muncher* a take on *Pac-Man*. That said, they were all competent conversions.

» [Spectrum] CRL's *In Search Of The Orb* was a rip-off of the Argus Press game *The Valley*. We smell compensation…

Silversoft also released *Starship Enterprise* (also on the BBC B), which was a tactical simulation heavily based on *Star Trek*. Similar games seemed to be becoming a sub-genre of simulations in its own right, such were the number of *Star Trek*-like releases coming out. None were officially sanctioned but used the same terminology as the TV series. Klingons on the starboard bow? You betcha.

Another company moving on from the ZX81 was Mikro-Gen, which finally turned its hand to other 8-bit systems, releasing its first Spectrum game, *Scramble*.

Well, it's here. After much hyperbole and with anticipation running high,



» [Spectrum] Part of Silversoft's initial foray into Spectrum territory was *Ground Attack*, a pleasant *Scramble* clone.

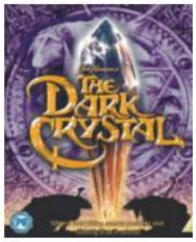
VIC-20	SPECTRUM	MUSIC
1 Adventureland (Commodore)	1 Escape (New Generation Software)	1 Save Your Love (Renee & Renato)
2 Omega Race (Commodore)	2 Mazeman (Abersoft)	2 Beat Surrender (Jam)
3 Rat Race (Commodore)	3 Spectral Invaders (Bug-Byte)	3 The Shakin' Stevens EP (Shakin' Stevens)
4 Grid Runner (Llamasoft)	4 Meteor Storm (Quicksilva)	4 Time (Clock Of The Heart) (Culture Club)
5 Andes Attack (Llamasoft)	5 Niteflight (Hewson Consultants)	5 Mirror Man (Human League)

DECEMBER 1982 NEWS

December was a memorable month for the movies. 17 December saw the release of *The Dark Crystal*, starring a cast of animatronic puppets and the voice talents of Jim Henson and Frank Oz, who jointly directed this family-oriented fantasy movie.

The seventh movie of the *Pink Panther* series released in the UK on 3 December. *Trail Of The Pink Panther* was the last to feature Peter Sellers as Inspector Clouseau, as he had died 18 months earlier.

When Clouseau's plane crashes at sea, a French reporter, played by Joanna Lumley, begins interviewing Clouseau's past acquaintances. The movie makers then slotted in flashback scenes from previous movies to get as much Sellers in the movie as possible. It was panned, and rightly so. Still, it wasn't as bad as what Steve Martin did to the character…



» *The Dark Crystal*, like *Labyrinth*, but without David Bowie.

9 December brought the release of the movie phenomenon known as *E.T.* A little boy called Elliott finds an alien. He decides to keep his new friend, hiding him away while trying to help him find a way to return home… which he does. With that, a money-making behemoth is born…

2 December saw the death of Marty Feldman, the British comedian who featured in movies such as *Young Frankenstein* and *The Adventures Of Sherlock Holmes' Smarter Brother*. He was instantly recognisable with his protruding eyes caused by Graves' disease.

He died aged 48 from a heart attack in Mexico during filming of the comedy film *Yellowbeard*.

» Due for release before Christmas, the Acorn Electron was delayed until just after, handing Sinclair a seasonal head start.

» [2600] *E.T.* wasn't great. That said, fall down a pit and repeat indefinitely certainly didn't help its cause…

the official *E.T. The Extra-Terrestrial* videogame was released on the Atari 2600. With a reported $20 million having been spent by Atari to secure the rights alone, it had better sell well…

E.T.'s place in videogaming history is secure and everyone knows the story behind it. It was one of the first film tie-ins and the programmer, *Yars' Revenge* creator Howard Scott Warshaw, was given an implausibly tight deadline to create the game – just five weeks.

The game was such a colossal failure that it had a hand in bringing about Atari's demise and the videogame crash of 1983, but given the stupidly short development time and forgetting the high-profile subject matter and poor quality, was it really the biggest gaming failure ever?

It sold 1.5 million copies and was the fifth biggest-selling Atari 2600 game ever. Sounds impressive until you realise that upwards of another 3 million cartridges were left unsold. It left a huge financial hole in Atari's bottom line and the excess stock would later fill another huge hole… somewhere in the desert of New Mexico, with lashings of concrete.

Also for the 2600 and released by Activision was *River Raid*. One of the first vertical shoot-'em-ups, you were required to blast enemy ships, bridges and planes while watching your fuel supply. It would rightly become known as one of the best games to be released on the 2600. It was developed by Carol Shaw, one of a handful of female game designers at that time.

In coin-op land, the follow-up to the massively successful *Donkey Kong* was finally released. *Donkey Kong Jr* would follow a similar arcade platform formula to the original, but this time you play the part of Junior, who must rescue an imprisoned Donkey Kong, caged by the hero-turned-villain, Mario. It was the first and only time Mario became the baddie in a videogame.

It was well-received and became a popular machine in arcades. So much so that Nintendo later allowed ports to a wide variety of formats, including Intellivision, ColecoVision, Game & Watch, NES and several home micros. Thankfully Junior and his father would stick around for a very long time to come…

After the resounding success of *Astro Wars* and the recently released *Cave Man*, Grandstand had one further tabletop videogame for release pre-Christmas. This time it was *Scramble*.

Grandstand had once again licensed the game, with its *Scramble* being a rebadged version of Epoch's *Astro Command*. It was another brightly coloured game with a vacuum florescent display and an appetite for battery-guzzling, and it could be yours for around £25.

Grandstand's main UK competitor was CGL, and it also had a new game out for Christmas. The elegantly shaped *Galaxy Invader 10000* was the third in the series; a follow-up to the 1981 bestseller *Galaxy Invader 1000*, itself a sequel to the original *Galaxy Invader*. Although it was fast-paced and colourful, it didn't sell well, possibly due to not being different enough from the last incarnation. Gamers were beginning to drift away from space invaders.

THIS MONTH IN…

ATARI AGE

With *E.T.* on the cover, another 2600 movie tie-in game was also released, *Raiders Of The Lost Ark*. Despite being fairly average on all counts, it contained some interesting gameplay moments and a unique two-joystick control system – one to move Indy and one to manipulate your inventory.

COMPUTER & VIDEO GAMES

Being the Christmas issue, *C&VG* offered some advice on potential presents. Possible wants included *Big Trak*, *Super Simon*, *Caveman*, *Speak & Spell* and any number of Nintendo Game & Watch releases. Nostalgia overload!

YOUR COMPUTER

Your Computer magazine dissected and reviewed the CGL Sord M5. It fawned over the specs, commenting on its "stylish appearance and compact design" and declaring it a strong contender. In the home computer market? No. As a doorstop? More likely.